Half-Lives of Responsibility
Gramsci, Derrida, and Inheritance in Environmental Ethics

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BY
Michael Peterson

Department of Philosophy
College of Liberal Arts and Sciences
DePaul University
Chicago, IL

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INTRODUCTION

Let us imagine a distant future and a wanderer making their way through a desert. For a moment, we will optimistically accept that there is a world for our wanderer to make their way through. This wanderer has been approaching a distant mountain for several days, suffering the wind and the heat. No one has come out this way in decades, maybe centuries. They approach the mountain and the landscape begins to take on strange properties.

At night, the cacti that thrive in this climate glow blue. Under a new moon, this strange illumination can be seen for some distance. The wanderer has encountered many cacti in their travels but has never seen them glow. This bioluminescent variety is otherwise identical to more typical cacti in the region. There is no odd smell or sound. After watching insects at the flower, our wanderer hazards a small taste of the flesh of one cactus. An anxious hour or two pass but no ill effects are observed. Strange, thinks the wanderer. These plants are strange but ultimately harmless. They will be my guides to the mountain.

A day or so later the wanderer encounters another unexpected addition to the landscape. Pillars of stone reaching towards the clear desert sky erupt out of the earth. They are jagged and the intact pillars terminate in sharp-looking points. They must be fifty feet high or more. They are grouped closely together and branch off, creating a sort of colossal bramble. The wanderer notes that many of these pillars—thorns?—have broken and eroded in the wind and rain (infrequent though it may be in the desert). They must be ancient. Although the arrangement of these structures is chaotic and almost threatening, the smoothness of their surfaces and the nature of the material prompts a question in the wanderer's mind: who built these? The wanderer spends a few days among the pillars, studying them and retreating to the safety of the soft blue glow of the cacti at night, for none grow among the thorns.

The mystery of the bramble is intoxicating, and our wanderer abandons their journey to the mountain. They return to their community and speak of what they have found. Many years later, a research expedition sets out. They begin to dig beneath the bramble to see how deep its foundation lies and to learn what they can of the architects of this place in the desert. What was this for? Was it a place of worship? Of honor? The Giant's Briar is established as the great mystery of our wanderer's time. Unlocking its secrets is to unlock the secrets of the past. A dig site is established.

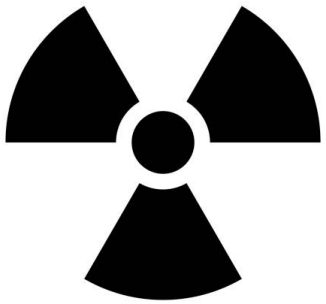
The ground beneath the pillars is homogenous, solid, and thick. It is difficult to clear with shovels and picks. Cracks are found where water pools after a rare storm. Large pieces of the ground are pulled up. These are heavy and the effort is laborious. But new techniques continue to develop. This dig requires innovation and has begun to motivate advances in ability and craft. The excavators feel closer to the clearly advanced society that constructed the site.

Paths are found beneath the desert sand. These paths are constructed of the same material as the pillars of the Giant's Briar. They must be thousands of years old. Most are marked by yellow lines. Some continuous, some intermittent. The lines contrast sharply with the dark grey or black material of the paths. How many have walked this way to the mysterious site? Were they also guided by the glowing cacti?

It is decades before the wanderer's community notices an increase in the number of tumors among archaeologists at the Giant's Briar. The rate of these physical irregularities increase exponentially among the second and third generation of explorers. Some members of the community are hopeful that the technology responsible for the construction of the brambles may help manage or reverse the course of the mutations. The architects of this site must have belonged to a powerful culture. These ancient giants were clearly untroubled by the death and

disease afflicting the community's archaeologists. Such a conclusion can be deduced from the fact that time and care was taken in constructing the Briar. No one would undertake such a project if the site was dangerous to them, after all. Constructing this site and communicating with the future must have been important to them. Efforts to understand the Briar must be redoubled. The dig carries on.

A startling discovery. A series of massive stone walls are found. Slabs, really. And each of these slabs is inscribed with varied writing. Each slab appears, initially, to be inscribed with writing from a different language or family of languages. Unfortunately, none of the inscriptions can be decoded immediately, although some resemble contemporary written language more than others. More experts will need to be brought in. The material of these walls is identical to the material of the Briar and of the paths. Each slab is also inscribed with hieroglyphs—symbols that recur irrespective of the language particular to that marker. A central glyph resembles a bird or perhaps a face. It is reproduced here:



Among the descendants of excavators and other manual laborers growths and tumors develop with increasing frequency. More information is necessary. The excavation must continue.

The dig site is now a large settlement. It is almost a city. People scattered across the land since the Century of Ruin one thousand years ago or more have congregated at the Giant's Briar

and live nestled among the pillars. Off-shoots of the blue cacti illuminate most homes at night and for the first time in centuries community life can continue past sunset without the use of rare combustible materials. The pillars provide shelter from the elements and the dig provides the community with an aim. Ruins have been discovered before, of course, and flooded and collapsed structures can be found all over this land mass. But this is the first site where answers seem forthcoming. It is nowhere near the blighted coasts and far from the frequent hurricanes and earthquakes that have made stable settlement impossible for centuries. The site is still and quiet. It seems to have been selected for its stability. But by whom?

As the dig proceeds, strange discoveries continue to be made. Deep layers of crumbled non-indigenous materials like fired clay, granite, and glass are intermittently discovered. An extensive tunnel network is mapped, although these tunnels have been filled with sand or salt. And hieroglyphs continue to be discovered on the walls. The bird/face is everywhere. It is usually accompanied by the successfully translated word "WARNING." Perhaps they believed this creature was dangerous and resided among the labyrinthine tunnels. A superstition? Or perhaps an early attempt at history? In any case, the danger is clearly past as these tunnels have been entirely filled with salt and sand. No creature lives here now. However, excavators will be especially attentive for bones and other signs that living beings once inhabited these ancient halls. Anything to help decipher this place.

After a century of slow digging and deciphering, an enormous salt-filled chamber is uncovered deep below the surface. Excavation is slow, as the salt corrodes and damages many of the tools needed to proceed. Breakdowns are common. Excavators joke that this place seems almost designed to frustrate their efforts. But new tools have been developed as the dig has advanced and the urgency of the dig has accelerated. Very few children born since the dig began

are now free from tumors. Whatever secrets these tunnels hold must be uncovered as quickly as possible.

On the surface, linguists have reconstructed some of the inscriptions on the rock walls uncovered decades earlier. The simplest message, which is assumed to be repeated across the different languages inscribed on different walls, reads as follows (or close enough):

DANGER.

POISONOUS RADIOACTIVE WASTE BURIED HERE.

DO NOT DIG OR DRILL HERE BEFORE A.D. 12,000.[1]

A success that will allow much of the remaining message to be deciphered, surely. Now it is up to historians to work out what "radioactive" and "A.D. 12,000" mean. Nothing poisonous has been discovered, only salt, sand, water, glass, and clay. And the unexplained illnesses above have afflicted many who have never braved the tunnels or the site directly. As the remaining text is translated more information can likely be gleaned beneath the surface.

In the large chamber, a sort of barrel or keg is pulled from the packed-in salt. It will be brought to the surface and opened. Thousands of similar barrels will be discovered and extracted.

In 1993, a report commissioned by the United States Department of Energy on strategies to deter human intrusion into a planned long-term nuclear waste isolation site was released. This report contained the recommendations of two teams, Team A and Team B, each comprising a different set of experts. These experts, recruited in 1990 to address the safe disposal of nuclear waste, "one of the most pressing issues facing the United States today,"[2] were tasked with

[1] This is, in fact, the basic message to be inscribed on a series of concrete slabs in a variety of languages over the site of the United States of America's first long-term high-level nuclear waste repository. See Trauth, Hora, and Guzowski 1993, F-13

[2] Ibid., D-3

imagining the various complications that might ensue given that already-existing high-level nuclear waste is understood to remain radioactive and dangerous to human beings for hundreds of thousands of years. Team A, apparently of a more literary bent, included three epigraphs as part of their report. The first of these, from the Rabbinical *Ethics of Our Fathers*, reads:

> You are not obliged to finish the task,
> Nor are you released from undertaking it.
> (*Ethics of Our Fathers II:21*)
> (*Pireki Avot II:21*)[3]

The second epigraph reads:

> The land was not willed to you by your ancestors
> - it was loaned to you by your children
> (*Kenya saying*)[4]

The third and final epigraph, the longest of the three, reads:

> OZYMANDIAS
> Percy Bysshe Shelley
>
> I met a traveler from an antique land
> Who said: Two vast and trunkless legs of stone
> Stand in the desert. Near them, on the sand,
> Half sunk, a shattered visage lies, whose frown,
> and wrinkled lip, and sneer of cold command,
> Tell that its sculptor well those passions read
> Which yet survive, stamped on these lifeless things,
> The hand that mocked them and the heart that fed;
> And on the pedestal these words appear:
> "My name is Ozymandias, King of Kings:
> Look on my works, ye Mighty, and despair!"
> Nothing besides remains. Round the decay
> Of that colossal wreck, boundless and bare
> The lone and level sands stretch far away.[5]

Team A goes on to describe the various complications which follow from engaging on a multigenerational project of containment and control. There are many technical, trans-

[3] Cited in Ibid., F-10.
[4] Cited in Ibid.
[5] Cited in Ibid.

disciplinary problems to consider. What sort of ground could accommodate toxic waste which will remain harmful to organic life for hundreds of thousands, if not millions, of years? What sort of container or containers would be adequate to this task? How would deep ground water behave? What is geological stability, anyway? All these questions and more proliferated the moment it was decided that the responsible thing to do with spent nuclear fuel and other radioactive wastes was to bury them deep underground until such a time that they no longer posed a risk.

But perhaps the strangest and yet most obvious question was simply: what kind of people would inherit this waste and what would they do with it? In one thousand, ten thousand, or one hundred thousand years, would there still be people like us? Would future generations resemble us, the products of the twentieth and twenty-first century, consumers and producers under capitalism, living in more or less representative liberal democracies? Given the enormous social and cultural changes that preceded our present, such direct continuity seemed unlikely. So, what kind of future could be presumed? If, as the above-quoted "Kenya saying" has it, the land is loaned to us by our descendants and not by our ancestors, how much would we need to know about those descendants to treat the land responsibly?

Together, these three epigraphs demonstrate several motivating concerns. The first and most obvious of these is that due to the nature of at least some of the high-level waste produced through the use of nuclear fission as an energy source, the project of isolating this waste will endure for longer than any one of the participating parties. Waste products like plutonium require isolation for up to one million years, and the average storage time necessary for fission products is one thousand years.[6] This far outstrips the duration of any human life, and so undertaking the

[6] See Routley & Routley 1978, 136

task of waste isolation is one that, as it turns out, no founding responsible party will see through to completion. However, as the reference to rabbinical *Ethics of Our Fathers* insists, the failure to see this project through to its completion is not taken to release responsible parties from the responsibility to inaugurate such a task.

In this sense, it is also understood that the waste and the land that will be utilized to establish and, we hope, maintain a certain level of isolation will be inherited by others. Insofar as future generations are understood as in some sense inevitable, it would turn out that the land only belongs to the present generations temporarily and will ultimately come to belong to our future others. This is to say that present generations do not choose what to bequeath to their inheritors. Rather, future generations come into what was always already going to come to them.

Finally, at least in the case of Team A, whose members are responsible for including these epigraphs, the inclusion of Shelley's famous poem speaks to at least a certain awareness of the impossible hubris of such an undertaking. Undertaking such a project in the name of our inevitable descendants is really just acting *as if* a waste isolation site could endure for the requisite duration. The name of the game here is to presume a stability in the face of a stunning lack of any evidence or reasoning suggesting that such stability would be possible. So, for instance, in 2014, a DOE compliance recertification application for a planned isolation site affirms explicitly that no methodology is known to produce plausible predictions regarding future states of society. As such, the working assumption of the DOE is that future societies will resemble present societies at the level of, say, "population density and land ownership patterns in the Waste Isolation Pilot Plant's (WIPP's) surrounding regions" and will continue to "for the next 10,000 years." [7] What we see in such a statement is the twin admission that no such minimal

[7] US DOE 2014, 25-1.

resemblance of the future to the present can be presumed and yet such a resemblance must be presumed or responsibility to the future simply becomes inconceivable.

As at least some of the authors of the 1993 report cited above already knew, the stipulation that a site's social characteristics will resemble present conditions is, at best, an apparently practical fiction. And, indeed, this stipulation was found to be "appropriate,"[8] but, as a different section makes clear, this appropriateness was found to hold on the basis of practicality.[9] Practicality, as defined by the DOE's certification processors here, is simply the ability to achieve the given goal "using currently available resources and technology."[10] Taken together, then, what we see is that the DOE has determined that this particular project is undertaken appropriately, and so within the bounds of responsibility, when it is best worked out given current capacities which themselves limit the possible future states considered to those that resemble the present. And this judgment is made independent of any sort of futural speculation as to whether or not this project is successful. And, importantly, outside of these narrow constraints, it is widely understood that, due to a lack of predictive capacity, this effort will undoubtedly run into complications as it hurdles through the ages.

In his 1979 opus*, The Imperative of Responsibility*, Hans Jonas writes:

> The gap between the ability to foretell and the power to act creates a novel moral problem. With the latter so superior to the former, recognition of ignorance becomes the obverse of the duty to know and thus part of the ethics that must govern the evermore necessary self-policing of our outsized might. No previous ethics had to consider the global condition of human life and the far-off future, even existence, of

[8] Ibid, 25-3.
[9] See ibid., 43-2
[10] Ibid.

> the race. These now being an issue demands, in brief, a new conception of duties and rights, for which previous ethics and metaphysics provide not even the principles, let alone a ready doctrine.[11]

Although a conceptualization of the gap between what we can do and what we can know is itself hardly new—Descartes famously elaborates on such a gap in order to explain the possibility of error in the fourth of his *Meditations*—the far-reaching effects of our actions today throw the stakes of such a gap into sharp relief. For it is not only the case that, as Descartes had it, our ability to know is experienced as finite while our ability to act is experienced as unlimited. Today, it is obvious to the point of cliché to observe that the effects of our actions immediately outstrip our ability to know anything about those effects.[12] And so Jonas asks us to recognize the uncomfortable position in which we find ourselves. The position of needing to take up what was formerly a condition for the possibility of *error*—the incongruity of our ability to act and our ability know—as a condition for the possibility of duty, ethics, or responsibility.

In twenty-first century discourses addressing what are called environmental or ecological issues, we see, in addition to clear examples of poorly understood yet long-term effects of our actions, more or less thoughtful expositions of the intuitions and commitments at stake in our attempts to work from within this gap. Foundational thinkers in environmental thought like Aldo Leopold and Rachel Carson help us to understand the *spatial* reach and fragmentation of our projects, in terms of ecosystems, land pyramids, food chains, and other now ubiquitous illustrations of a deeply interrelated world.[13] Our actions, these authors insisted, affect more than the place immediately surrounding the actor. We—we humans, we denizens of the twentieth and

[11] Jonas 1984. p.8
[12] See here Gardiner 2006, *passim* for a contemporary application of this notion to the problem of climate change, in particular.
[13] See Leopold 2020 and Carson 2002.

twenty-first centuries, we late-capitalist subjects, we heirs of centuries of accreted privilege, exploitation, wealth, and resources, at least—have *reach*. And we are better able to act responsibly, we think, when we know the extent and nature of that reach. Or know it well enough. Or know it as best we can. Or when we at least make the effort. And, as we are increasingly aware today, that reach must be considered in its temporal as well as its spatial character.

The following pages deal with this epistemological and ethical relation. The central question is one of responsibility and knowledge. The existence of nuclear waste with its long half-lives provides present generations with the occasion to think questions of responsibility across stunning gaps of time that require either an admission of epistemological humility or epistemological hubris. That is, the conception of responsibility at work here must be operative from either the assumption that there is no way of knowing what the world will look like in ten thousand or one hundred thousand years or from the assumption that this distant future will sufficiently resemble the present so as to make that temporal gap mostly irrelevant. I will argue that most accounts of intergenerational responsibility, at least as they are developed in the framework of existing nuclear waste policy in the United States, begin with the recognition of epistemological limitations but go on to take the task of the present to be that of determining the future to such an extent that that very future is no longer envisioned as distant and unknowable. This is because, as we shall see, the conceptions of responsibility being deployed in this context can only imagine a responsibility for or towards others that fundamentally resemble present generations on the level of technical ability, linguistic continuity, and cultural inheritance. If, the argument goes, future generations should represent a break from the present such that the knowledge required to handle the waste generated and isolated by contemporary generations is

lost, there would simply be no way for present generations to be responsible in their actions insofar as these actions have effects thousands of years down the road.

To state the problem more plainly: a certain continuity or resemblance to the present is taken as a necessary condition for the possibility of an ethical relation to future generations. And because this is taken to be the case, it follows that responsibility entails that present generations, our leaders, our representatives, and our technical engineers, take the necessary steps to ensure that the future resemble the present as much as possible *so that* present generations *could* be responsible at all. Present generations can be responsible to future generations on the condition that the future be determined in advance as a minimally continuous reproduction of the present.

The alternative is literally unimaginable. If a future society comes to be in such a way that it has experienced an absolute break in epistemological continuity, it becomes unclear who could be said to be responsible if such a society, for instance, encountered toxic waste left behind by present generations and inadvertently was harmed by way of that exposure. Could a conception of responsibility be developed that did not depend on knowledge of the identity or context of inheritance of any particularly determined other? This is both a deeply abstract question about the necessary pre-condition or pre-conditions for ethical relations in general and a highly pertinent and concrete question with very real material stakes insofar as it is at the heart of contemporary nuclear waste policy and, indeed, future-oriented environmental policy at large. As such, the following chapters will move back and forth between questions of the practical instantiation of conceptions of responsibility and investigations into the conceptual apparatus undergirding these instantiations. What I hope to provide is not only an engaging survey of a contemporary issue in environmental policy, namely, nuclear waste storage, but also to demonstrate the relevance of a number of moments in the history of Western philosophy that

have not traditionally played a role in contemporary environmental discourse, as well as to demonstrate the relevance of intergenerational environmental discourse to readers from outside that tradition.

The two principal figures from Western philosophical history to which I will turn in the pages ahead make a surprising pair for a number of reasons. Early-twentieth century Italian Marxist Antonio Gramsci and late-twentieth century Franco-Algerian philosopher Jacques Derrida are both largely absent from environmental and ecological thinking in general and, further, are rarely found side by side in contemporary political or philosophical discourse. Exceptions to this tendency include David Wood, Kelly Oliver, Matthias Fritsch, and Claire Colebrook, among others, in the case of Jacques Derrida, and Alex Loftus, Benedetto Fontana, and Harold A. Perkins, in the case of Gramsci.[14] By and large, however, Gramsci's name is most often invoked in the context of the concept of hegemony, political organization, and Marxology, whereas Derrida has been taken up broadly as a critic of Western metaphysics, following in the tradition of Friedrich Nietzsche, Martin Heidegger, and Sigmund Freud, among others.

If Gramsci and Derrida are a particularly strange pair, it is perhaps because, as we shall see in a later chapter, Derrida's engagement with the tradition of Marxism in particular has been contentious even among Derrida's proponents. We may add to this the fact that Gramsci was born and died before environmental philosophy as we knew it existed as a discipline and that, as a political prisoner in Mussolini's fascist Italy, Gramsci's concerns were focused on the imminent apocalypse of the coming Second World War rather than the yet-to-be-defined climate crisis of late capitalism. Equally pertinent is the fact that, apart from a reference to the theme of the apocalyptic here and there and a late-in-life concern with the question of animality, Derrida

[14] See Wood 2012, Oliver 2015, Colebrook 2015, Fritsch 2018, Fritsch et al. 2018, Loftus 2012, Ekers et al. 2012, and Perkins 2011.

also had very little to say about ecological issues as such. It is fair to question what, if anything, Derrida and Gramsci have to say in the context of the ecological and to wonder what justifies pairing these two thinkers in the first place.

What has been most fascinating to me as I explored the question of nuclear waste disposal over the past nine years has been the extent to which this problem is situated around the question of language and legibility. The danger of radioactive materials is invisible to the naked eye. Specialized instruments are required to read the presence of alpha particles, beta particles, or the particularly dangerous gamma rays that radiate from radioactive matter. Without such an instrument, radioactive material is encountered as a rather hot chunk of stuff that is otherwise quite unremarkable. But, importantly, a lack of knowledge concerning the presence of these invisible particles and rays is no defense against their ability to break down cells and DNA molecules, which may then lead to cellular mutation, which is to say, cancers. Knowledge of these particles when they are present is just the ability to perceive not the particles themselves but the signs of their presence. Which is to say: the legibility of these particles is part of safeguarding ourselves and others from harm. From the very first moment, the question of responsibility and radioactivity has been a question of legibility.

And this is what we see carried forward in the work of the Task Forces assigned to think through the continued isolation of high-level waste repositories. Future generations must be made aware of the contents of these repositories so that present generations can be said to have been responsible to them. A task that, as the epigraphs chosen by Team A reflect, will be undertaken but not completed by present generations. What must be legible must be legible for future generations and so must account for the possibility that these codes, symbols, and

monuments be encountered as broken away from any larger explanatory context, like Shelley's "vast and trunkless legs of stone" no longer supporting the body of a forgotten king.

It is for this reason that Gramsci and Derrida appear to me to be not only opportune resources for asking questions of intergenerational environmental responsibility but, indeed, appear to me as necessary interlocutors for asking these questions. Gramsci's writing on industrialization, capitalism, Marxist organizing, resistance to fascism, to mass production and Fordism, and, yes, his writing on hegemony contain a central commitment to a thinking of futurity and inheritance. His question as a journalist, party leader, and, finally, as a political prisoner remains oriented towards possible futures. Nowhere is this more apparent than in his pre-prison publication *La citta futura*, "the City of the Future," in which Gramsci considers the failures of utopian revolutionary movements up to the early twentieth century. Equally pertinent is the fact that Gramsci's academic training, prior to his joining the Italian Communist Party, was in linguistics. Indeed, we see that many of his later *Prison Notebooks* are filled with reflections on regional dialects, language education, reflections on the universalizing project of Esperanto, and, especially, reflections on the critical role played by the creation of a national Italian language that helped enable the *Risorgimento* of the nineteenth century. As such, this dissertation follows the work of Alessandro Carlucci in affirming the orienting role played by language in Gramsci's overtly future-oriented political thought.[15] Especially pertinent for us here will be thinking the inheritance of language and the communicability such an inheritance affords in a thinking of a given future towards which one might say that they could be responsible.

In this context, then, the inclusion of Jacques Derrida alongside Antonio Gramsci might begin to seem less aleatory. Indeed, as we shall see, while Derrida treats the themes of

[15] See Carlucci 2013.

inheritance and futurity throughout his writings until his death in 2004, some of his most explicit engagement with these concepts occur in his 1993 text on Marx, *Specters of Marx*, and his later more overtly political texts and seminars like the 1999-2000 seminars on the death penalty, his 2001-2002 seminars on sovereignty, and 2002's *Rogues*. These texts carry on a thinking of reception and communicability inaugurated in Derrida's very earliest writings. Like Gramsci, Derrida is interested in delving into the complicated conceptual apparatus that would link understanding to the project of universalism in a future-oriented political register. And, like Gramsci, Derrida finds in Marx resources for such an endeavor.[16] Even more relevant for our purposes is the interesting fact that Derrida makes one of his few references to nuclear waste explicitly in 1989's *Biodegradavbles: Seven Diary Fragments* which takes as its central concern the question of the legibility and inheritability of philosophical texts and of their authors.[17]

My claim, then, is that Derrida and Gramsci share an interest in critically engaging with conceptions of future-oriented ethical and political projects while emphasizing the role played by communicability and the inheritance of legibility. And that such an engagement provides us, here, today, with a means of approaching discourse on intergenerational environmental projects, and especially with the project of the long-term disposal of nuclear waste. In order to support this claim, I will proceed in the following way.

The first chapter, "Intergenerationality and Nuclear Waste," aims to survey major streams of contemporary accounts of intergenerational responsibility in the context of environmental ethics and actually existing environmental policy. We examine the ways in which intergeneratinality is cashed out in approaches to climate change and find there parallels with the

[16] Of interest here would be Derrida's currently untranslated and unpublished brief single seminar on Gramsci, delivered just after with his GREPH seminar on *les idealogues francais* in 1974-5 and contemporaneously with his 1975-76 seminar *La vie la mort*.
[17] See Derrida 1989.

thinking of responsibility operative in contemporary discourse on nuclear waste. What we find is a discourse dominated by complications like those raised by Derek Parfit's well-known "non-identity problem." Namely, there are issues in determining whom, exactly, we are responsible *to* when we make claims about harms done or considerations owed to future generations, given that the members of these generations do not yet exist and so, properly speaking, do not yet have interests to be defended or infringed upon. Kristin Shrader-Frechette's work on nuclear waste and risk helps us to situate these issues firmly in the context of nuclear waste disposal. By engaging these interventions alongside extant and determinative Environmental Protection Agency (EPA) and Department of Energy (DoE) policy documents, we can see how these identitarian ethical concerns are manifested concretely in the design and expectations for nuclear waste repositories.

The second chapter, "Gramsci and the Half-Lives of Inheritance," seeks to situate Gramsci's work in the context of intergenerational political projects by taking up a number of his pre-prison writings, especially "An Active and Functional Neutrality" and "Three Principles and Three Kinds of Political Order." In these texts, we see Gramsci navigating his own inheritance of the thought of Benedetto Croce and Giovanni Gentile by way of his critique of certain forms of left utopian political projects. Gramsci establishes a critique of utopian thought that would imagine the future in terms of particular concrete material, social, and political determinations. Gramsci's critique turns on his insistence that the future is too variable and, ultimately, unknowable and unpredictable for such determinations to act as appropriate motivators for action in the present. This critique is then linked to his later thinking of language as it appears in his *Prison Notebooks*. Ultimately, we argue that Gramsci espouses a thinking of the future in terms of what can be inherited, taken up, and transformed through that inheritance in political and

linguistic registers. As such, Gramsci allows for the possibility of critiquing contemporary nuclear waste policy. The projects such policy enables, like the construction of long-term storage and isolation facilities that must be inherited by future generations in particular ways so as to guarantee their safety, are overly, if not entirely, dependent on a thinking of future societies and future generations as pre-determined, knowable in advance, and so prone to failure when these determinations (inevitably) fail to manifest.

Chapter three, "Derrida—Iterability and Biodegradability," aims to connect Derrida's thinking of communicability to the thinking of determinate contexts. By looking at texts such as 1971's "Signature Event Context" and 1972's "Plato's Pharmacy," we will see the way in which Derrida goes about destabilizing the logic of inherited meaning that grounds the project of intergenerational responsibility in the case of nuclear waste repositories. Importantly, for Derrida as for the architects of the waste repositories messaging apparatus, communicability is linked to the possibility of responsibility. This chapter will begin by outlining the structure of Derrida's thinking of communicability, context, and responsibility before connecting these themes to a later text of Derrida's, 1989's "Biodegradables: Seven Diary Fragments." "Biodegradables" not only offers an elaborated conception of textual inheritance, it does so using the language of survival and, fortuitously, the image of nuclear waste. And so, we will be able to link Derrida's thinking of communicability to the Gramscian theme of inheritance and survival as well as to the thinking of ecological endurance, all with a constant eye on a certain thinking of responsibility.

The fourth and final chapter takes up the language of inheritance in the context of Derrida's later works on thinking "the future" or the "to come," both of which are translations of the French *avenir* and *à venir*, respectively, a choice of terminology that reflects Derrida's insistence that the future is related to in the mode of self-constitution and generative of

responsibilities as a futural promise rather than as a content or configuration that will hold in some determinate amount of time. Of interest to us will be, primarily, 1993's *Specters of Marx* and 2002's *Rogues*. Here, again, we see the sense in which a thinking of inheritance is intimately linked to responsibility in Derrida's thinking in a way that is illuminating for thinking the inheritance of toxic wastes. But, moreover, we will see here a sense in which Derrida most clearly distinguishes himself from Gramsci at the level of normative claims about inheritances. Unlike Gramsci, who insists on thinking the inheritance of principles which can be taken up in different contexts and by our future others, Derrida gives us good reason to think that principles themselves risk being as calculating and determinative of conceptions of the future as Gramsci worried was the case with concrete facts. In a sense, the argument here seeks to apply Gramsci's own critique of utopian thinking back on Gramsci himself. As we shall see, such a re-application of Gramsci's critique not only reveals the important sense in which inheritance must be thought as structured by differences in future contexts, but, by complicating our thinking of legitimate inheritance, also complicates any appeal to the figure of an origin as a first instance or original meaning that would legitimize inheritances. As such, of interest to us will be Derrida's claim that his "indifference," to use his language, to legitimate inheritance provides him with something like a first ethical and political principle.[18] We will need to be clear about what it could mean, practically, today, with nuclear waste, for our ethical and political principle to be informed in this way.

The goal of this dissertation is relatively straight forward and, ultimately, quite modest. My aim is to uncover the model of responsibility currently being deployed in highly determinative and actually existing nuclear waste policy in the United States and to then work

[18] Derrida et al. 2008, 232

out whether that model of responsibility is coherent. In undertaking this project, there are three central points to keep in mind: Firstly, I will argue that the model of responsibility deployed by the architects of contemporary nuclear waste policy in the United States is inadequate to the challenges posed by the necessity of thinking ethico-political responsibilities to future people. Rather than establishing conditions for the exercise of responsibility by our inheritors, current policy succeeds at nothing but bequeathing irresponsibility to future generations and goes out of its way to respond to its own inadequacies by reduplicating these irresponsible structures so as to further constrain and delimit the future. On these grounds, the continued production of nuclear waste, which is to say the continued use of nuclear energy, cannot be justified under current conditions.

Secondly, my objection to the use of nuclear energy is principled insofar as it is a position I hold because of the conditions that hold for the long term disposal of nuclear waste today. Which is to say that changes in these conditions would cause me to revise my position. As such, I am not opposed to continued research in nuclear power, especially as this relates to diminished waste production and the reuse and recycling of currently existing waste. The urgency of the environmental crisis as it exists today compels our generation to divest from the continued use of fossil fuels and every alternative should be on the table. However, this very urgency is part and parcel of my objection to further investment in the construction of new nuclear power producing facilities and the continued subsidization of existing facilities. Climate change requires action today, and, today, the state of nuclear energy is such that its use cannot be justified insofar as it creates profound inequalities and injustices for future generations. Today, our actions need to be directed elsewhere.

Finally, the aim of this dissertation in the context of philosophical discourses more broadly is not (just) to convince fellow academics of the unjustifiable shortcomings of one particular energy source. Rather, my aim is to expose a deep interconnection between the articulation of conceptions of identities, temporalities, and responsibilities and the material institutions that shape the world we occupy and that our inheritors will occupy. In the case of nuclear waste policy, what responsibility is determined to be directly gives rise to which monuments are built to survive millennia and so which monuments future generations may discover and attempt to make sense of. These encounters will be incomplete, highly contextual, and utterly unpredictable. In the case of nuclear waste repositories, we are in a situation wherein future generations are being asked to bear extreme, perhaps fatal, risk due to this unpredictability. Present generations are, essentially, gambling that their inheritors will understand them. But the risk for this gamble falls on those same future generations. And these future generations, in their being indeterminate, are in inextricable ways doomed to fail. Today, our academic, political, technological, scientific context allows us to understand that future generations will inherit the present in a manner that cannot be determined in advance. And this "cannot" is something like an ontological necessity, or at least seems that way to us. Any articulation of responsibility that insists on future generations taking up our inheritances in a pre-determined fashion will fail to hold for those future generations. What this means is that these articulations of responsibility render responsibility impossible for future generations. The responsibility for this waste is, for today, for now, and into the future, that of the present generation. And that responsibility must be reckoned with today, now, and into the future.

1. Nuclear Waste and the Site of Intergenerational Responsibility

What! Is it now a seer, think you, who has the gift of judging what is to be dreaded and what is to be dared?
Plato, *Laches*, 195E[1]

1.1 Long Lives and Intergenerational Responsibility

Responsibility is always future-oriented.[2] To say that we are responsible *for* something is to say that we are responsible *before* something. We are, we think, responsible for what we can affect. The effects we cause happen after the time in which we think we are acting, which is just to say that the effects we are responsible for are temporally situated. In the first chapter of *The Handbook for Intergenerational Justice*, a collection of essays on intergenerational issues in ethics and justice that functions as a sort of nucleus to that problematic, Dieter Birnbacher asserts as much in writing, "we are always responsible—in terms of an obligation to concern—for actions or events which, from the subject of responsibility's point of view, take place in the future or at least reach into the future. Thus, responsibility as such means always and necessarily responsibility for the future."[3] Birnbach's language flags an insistence that these effects do not simply occur abstractly and without specific content, swept aside by way of vague gestures to "the future." Rather, they "take place" in the future. In this sense, when we ask about a responsibility defined in terms of the effects one has on one's environment—that which will outlive a given agent or actor but will be shaped by their decisions—we are not qualitatively modifying the concept of responsibility. We are responsible for our effects, before the future, and

[1] Plato 1924, 65
[2] This rather simple formulation will be justified in the pages ahead and takes as its starting point the essential writings of Matthias Fritsch, whose work on establishing the fundamentally intergenerational position of responsibility-bearing subjects informs the entirety of the project that follows. See Fritsch 2018, *passim*.
[3] Birnbacher 2006. pp 23-38. 23.

our environment just is what we affect and what affects us. To say that responsibility is future-oriented responsibility is just to say that responsibility is always environmental responsibility. We are responsible for and before the future and for and before our environment. Although the question of what this responsibility can be said to entail is still unclear.

As Hans Jonas famously argues in *The Imperatives of Responsibility*, humanity's ability to affect the future in far-reaching ways must be accompanied by a correspondingly far-reaching account of responsibility. Jonas argued that the need for such an extended conception of responsibility was necessary because, in its far-reaching capacity, "the nature of human action has changed, and, since ethics is concerned with action, it should follow that the changed nature of human action calls for a change in ethics as well."[4] Whether or not there was ever a time in the historical past when a subject's actions created effects that extended no further than their locale and their time of life, it is difficult to understand present conditions as meaningfully suggesting anything other than that the actions of various levels of human society are capable of affecting the environment for hundreds of years, if not millennia, to come. Anthropogenic climate change, mass extinction, the destruction of the habitats of non-human others, and the continued use of production techniques that result in enduring by-products like (but in no way limited to) Styrofoam, plastics, mercury, and nuclear wastes together define humanity's activity as affective far beyond a single lifetime or the time of any previously existent institution.

The present generation is more than capable of recognizing that it exists in a time of what Stephen M. Gardiner refers to as spatial and temporal dispersals of cause and effects as well as spatial and temporal fragmentations of agency.[5] No one action can be easily thought of as the

[4] Jonas 1984, 1.
[5] Gardiner 2006a, *passim*. For a helpful cataloguing and critical engagement with the definition of a "generation," see Fritsch 2018, 19-24. We largely follow Fritsch in thinking a 'generation' in terms of overlapping groups delimiting certain "commonalities and reciprocities, but also asymmetries and the significant (and partly enigmatic)

singular cause of any particular effect. Which is to say that no actor can be said to fully occupy the position of "causal agent" for any such effect. No one driver giving up their gas-powered car, for instance, can prevent the ocean from rising one extra millimeter.

Correspondingly, no single effect is contained to a given spatial or temporal place. If every driver in Chicago were to give up every gas-powered car in the city, it is not as though Chicago would be spared the ravages of a changing climate while the rest of the world experienced climate change's worst effects. Effects with this sort of range do not respect borders. There is leakage between temporal and spatial limits and even between the temporal and the spatial as series, to borrow an expression from Peter C. van Wyck.[6] Together, this entails that, in this context, there is no single subject that can be said to have been wronged by any particular other's action any more than any one subject's action can be mapped onto a particular effect. It is *prima facie* incoherent to say that one person's decision to drive to work every day directly and causally cost another person their home after it was lost in a wildfire intensified by the effects of climate change. Rather, cause and effect here are spread out so as to cross-contaminate spatial and temporal stories about direct causality. This cross-contamination fragments the classical sense of responsibility that would privilege the link between individual action and individual suffering.

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facts of birth and death" (Fritsch 2018, 20). Taken up as a certain situated group spanning roughly thirty years but overlapping with proximate previous and subsequent groups, thinking a 'generation' allows us to think the connections between generations as 'chains of concern' which may be non-exhaustive of a series of generations' make-up but which nonetheless supplies us with material content that distinguishes some generations from others and allows us to think a generation through its mediated responsibilities to both proximate and distant futures. Key to Fritsch's account is the potentially transitive work that generational overlap can perform for thinking concerns moving on from one generation to the next. Were we to insist on thinking generations discreetly, such inheritances are trickier to parse, as is evident in impoverished contemporary discourses fruitlessly laying out absolute antagonisms of interests between so-called Baby Boomers, Millennials, and the ascendent Generation Z here in North America.

[6] van Wyck 2005, 4.

Let us repeat that these complications may not be qualitatively novel in any important sense. Current political and economic systems are in place because of a massive interweaving network of complex causal chains across thousands of years. The sorts of highly destructive and systemic inequalities and injustices that characterize global humanity in 2021 cannot be accounted for in any sort of straightforward way that would be reducible to the delimited action of a given bad actor at some point in history—no matter what convenient narratives exist that might try to tell a compelling story otherwise. Gardiner's use of the term "perfect moral storm" to describe climate change, given the intersecting complications of the above dispersals and fragmentations in conjunction with clear institutional inadequacies in addressing the worst effects of climate change, may be descriptive of this particular crisis, but is certainly not unique to it.[7]

Indeed, what is unique to the current environmental or ecological crisis may not necessarily be the sheer breadth of interwoven and fragmented causal chains that result in demonstrable harm—a feature it would share with an enormous number of atrocities committed by sets of human beings against others over the species' relatively short history—but, rather, the

[7] See Gardiner 2006a, 398-9. Gardiner has the following to say about his choice of terminology: "The sense of the analogy is then that climate change appears to be a perfect moral storm because it involves the convergence of a number of factors that threaten our ability to behave ethically." That is to say that there is an amplifying effect when particular factors converge to the extent that certain possibilities for moral action become more difficult to instantiate than if each of these factors had emerged in isolation. The "storms" in question, for Gardiner, are the global storm (we might say the 'spatial' storm), the intergenerational storm (a temporal storm that is temporal insofar as this temporality is also always a series of inheritances), and the institutional storm (a necessary third category that includes voluntary associations, thereby distinguishing it from the seemingly ontologically irreducible character of the first two storms). Gardiner argues here and elsewhere that climate change represents a moment of convergence or conjunction that generates novel moral conundrums for the contemporaries of this convergence. It is clear to me that Gardiner's analogy is helpful in the sense that it picks up the ways in which apparent delimitations of areas of ethical and moral significance (spatial distancing, temporal lag, institutional weakness or disarray etc.) are capable of modifying one another to potentially disastrous effect if these interconnections are not noticed. But it seems evident that these three storms converge in cases outside the bounds of fossil-fuel driven climate change in particular. Fortunately, Gardiner's argument in no way depends on the specificity of climate change in this respect. Rather, his diagnosis hinges precisely on recognizing the difficulties posed by such a convergence—difficulties that are surprisingly easy to pass over when one or the other of these modes of categorizing is privileged.

clarity with which these nefarious effects can be anticipated. "Nobody," Birnbacher writes, "can be blamed for not having avoided troubles he or she could in no way foresee or expect under given circumstances."[8] We are not, that is to say, responsible for the unknown. Which is also to say that one would be responsible for effects knowingly brought about.

We may here be reminded of Descartes' argument in Meditation IV that mistakes occur when our freedom to act outpaces our understanding—that "the will extends further than the intellect."[9] On Descartes' view, we are responsible for *having erred*, irrespective of what follows from that error. Because we understand that our will is capable of extending further than the limited scope of our understanding, we court sin, in Descartes' language, which is to say we turn away from the good, whenever we neglect to "contain the will within the same boundaries" that contain the understanding.[10] And, importantly, this leads to Descartes's well-known cautious imperative: "I should never judge anything that I do not clearly and distinctly understand."[11] It is epistemological access, rather than sheer ability to impact, that determines and limits the imperative to act. It is our extended capacity to predict the effects of our actions rather than the mere fact that our actions will affect the future, as Jonas has it, that seems to be the singular defining feature that might separate contemporary generations from those of our ancestors. As human communities collectively become increasingly aware of the effects their actions have on each other and on the environs, so too do their responsibilities appear to increase.

It would be disingenuous to suggest that, today, in 2022, those of us entangled in fossil-fuel capitalism are unaware of the sorts of effects current modes of production and societal formations will have on the future. Any given text even tangentially related to environmental

[8] Birnbacher 2006, 25.
[9] Descartes 1998, IV.58
[10] Ibid.
[11] Ibid, 61.

issues will typically begin with an accounting of these eminently foreseeable effects (one such list can be found below). And, on Birnbacher's argument, the present generation that is, to a greater or lesser extent, able to foresee and, to a greater or lesser extent, able to do something about these effects is in a position where responsibility before the future is meaningful and can generate imperatives.

However, Birnbacher also wants to restrict responsibility in such a way that it could not be said of a vague or abstract quasi-subject like "the present generation," indeterminately construed.[12] Rather, Birnbacher suggests we understand formulations like "the responsibility of the present generation" to be "an elliptical phrase for demands that are primarily directed to those collective agents who have the strongest influence, for instance present governments or leading industrialists in industrial nations."[13] So Birnbacher's claim works out to something like "those currently able to foresee the effects of their actions and able to act in such a way that those effects might be otherwise are responsible for the effects of those actions." As a starting point, such a claim will suffice to delimit responsibility, if only to help us avoid falling into the habit of distributing blame equally between exploited communities the globe over and the political and billionaire classes that have consistently chosen to construct a world that makes the continued intensification of the climate crisis seemingly inevitable.

Our initial view of responsibility, informed generally by the position of Birnbach from this "Handbook," is one that states that concrete actors both in a position to know what the consequences of their actions will be and to act in meaningfully different ways are responsible before future generations and the environs in which those generations will exist precisely

[12] Birnbacher refers to these subjects as "proto-subjects" and, in addition to 'the present generation,' includes 'mankind' as an example of such a proto-subject. See Birnbacher 2006, 26.
[13] Ibid.

because the nefarious effects of their actions are known to these actors. In the pages that follow, we will see the ways in which such an understanding of responsibility concretizes itself in environmental political discourse and policy (in particular, we will be interested in the way that regulating agencies of the United States government and nuclear energy producers formulate responsibility for themselves). First, though, we must deal with an additional complication that arises when we think about responsibilities before a future. Out of necessity, those before whom Birnbacher's "present generation" are responsible cannot be singularly picked out in the same way that the present generation itself can be. And such is the case for a rather simple reason: future generations do not yet exist. This means that it is unclear to whom, exactly, we are responsible. If, following Birnbacher, we want to ensure that we are not ascribing responsibility to fuzzy collective subjects like "the current generation," we might also want to be sceptical of the suggestion that any subject or subjects might have a responsibility *to* as yet unspecified potential future others. Let us now turn to the problems that arise in trying to conceive to whom, exactly, present generations are responsible.

1.2 Intergenerational Harms and Identities

In the synthesis of the International Panel on Climate Change's fifth Assessment Report, the reason presented to readers for concern about the predicted future changes to our planet's climate is a *prima facie* concern with the welfare of the planet and its inhabitants, human and otherwise. Climate change is described in terms of its "detrimental impacts," including potential mass extinctions, severely undermined food and water security, increased incidents of ill-health, increased risk of severe weather events, air pollution, sea level rises, increased ocean acidification, increased displacement of large groups of people, and the undermining of an

already precarious global economic structure.[14] Many of these impacts are already being felt today and are, to a certain extent, now unavoidable, although their intensity could potentially be abated given different courses of action. These are all things that we, the present generation, can be said to know in 2021. This knowledge is even available to those of us currently existing that do not, perhaps, exert "the strongest influence" over events.

The International Panel on Climate Change understands the likelihood of predictions concerning the effects listed above as ranging from "virtual certainty" to "medium confidence." On Birnbacher's model, then, it stands to reason that the present generation is responsible for any of the effects that transpire. These are effects which have been foreseen and which could be avoided to a certain extent. But the grounds on which these effects *should* be avoided is in the more or less unarticulated assertion that these detrimental impacts that can be avoided should be avoided simply because they are detrimental. Bluntly, the working assumption is that avoidable harms should be avoided.

In his own contribution to the *Handbook for Intergenerational Justice*, Stephen Gardiner explains that there is a moral problem at the core of intergenerational relating in that the present generation will tend to prefer to undertake actions that will benefit the present generation and pass related costs on to future generation, while tending to avoid undertaking actions that will incur a cost on this present generation at the benefit of future generations.[15] Gardiner illustrates this tendency by pointing to the recent history of environmental and intergenerational practices and policies that have failed to find purchase insofar as human beings are motivated to undertake actions that will benefit them and reluctant to undertake actions that would disadvantage them with the promise of a future return on investment that no present actor will live to benefit from.

[14] IPCC 2014, 13-16.
[15] See Gardiner 2006b, 149 and *passim*.

However, we need not accept this particular anthropology of human behavior to work out whether such failures would constitute a moral problem. Gardiner is simply making the point that there is something morally suspect going on when such practices do take place, as "it seems unethical for an earlier generation to foist costs on a later generation without any compensation and without its consent."[16]

Here, Gardiner is satisfied to appeal to a certain moral intuition about the injustice that would result in such an asymmetrical imposition of costs on members of future generations. But it is not so difficult to understand the reasoning behind that claim to injustice through appeal to a variety of different, typical ethical frameworks. If one were a classical utilitarian, for instance, concerned with reducing the amount of suffering in the world, we could simply point to the seeming fact that future generations will outnumber the present generation (or present and past generations combined) to demonstrate that such actions as would harm future generations would always also increase net suffering in the world, over time. Of course, one could also argue, as Peter Singer famously suggested in a 2010 *New York Times* Opinion piece, that the clearest path towards reducing future suffering might simply be to sterilize all of humanity and avoid the very existence of future generations, if all future generations are condemned to live lives characterized by suffering resulting from the choices of present generations. [17] Here, we would run into conversations typical to utilitarian philosophizing concerning what "counts" as a minimally worthwhile life. Indeed, Singer himself suggests that future generations may still live a life worth living and so contemporary society has not yet reached a point where the mass sterilization of humanity would be justified.

[16] Ibid., 149.
[17] See Singer 2010. https://opinionator.blogs.nytimes.com/2010/06/06/should-this-be-the-last-generation/. Accessed February 7, 2021.

An alternative response to the application of a utilitarian calculus to the question of harming future generations can be found in what Derek Parfit calls "the repugnant conclusion."[18] Namely, if human life remains minimally worthwhile into the future, the "responsible" strategy to pursue would simply be to generate as much human life as possible that would remain minimally worthwhile, thereby increasing the overall amount of good in the world. The operative question thus becomes one of possibility—is a worthwhile life possible? If not, then the utilitarian calculus would demand an end to future generations. If a worthwhile life is possible, that same calculus demands maximally reproducing life so as to maximize the number of worthwhile lives lived. Questions of intergenerational justice, as Matthias Fritsch writes, "ask moral questions about possible worlds."[19] Which is to say that, here, the question remains one of deciding in advance what the future will look like so that one may, ostensibly, decide responsibly. To make a moral question dependent on what sorts of worlds can be imagined is to take epistemological capacity as a condition for moral action. And this link between the epistemological and the ethical will remain at issue in instantiations of ostensibly future-oriented ethics taken up in the following pages.

If one were not a committed utilitarian, one could appeal to the notion that privileging members of currently existing generations at the expense of future peoples treats those others as means rather than ends, to use the language of Immanuel Kant. This would mean that deferring the costs of actions that benefit the present cannot instantiate a principle that aims at freedom, or autonomy, universally. Future generations are here thought as a kind of repository where the costs of present generations' actions can be safely stored until the present generation passes

[18] Parfit 1984, 381.
[19] Fritsch 2018, 37.

away.[20] In this way, present generations benefit from certain courses of action without themselves facing any of the problems these actions incurred. The future is thought simply as a means through which the present can justify harmful behavior. However, as we remain in this Kantian register, it is not clear what it would mean to consider the autonomy of future people since these as-of-yet non-existent others are not yet selves that could give themselves a law—it is an auto-nomy of only potential *autos*.

In both the case of the first-pass utilitarian and first-pass Kantian deontological explications of what, exactly, the harm that is being done to future generations by the present *is* when future generations are made to assume costs, we run into versions of what is called in the literature on intergenerational justice "the Non-Identity Problem." The Non-Identity Problem dates back to at least the 1980s, where it entered into the philosophical lexicon through the work of Derek Parfit and Gregory Kavka.[21] Here, what is at issue is not simply the fact that these future others do not yet exist, but, rather, that future others will owe their existence, in some way, to the actions of the present generation.

Edward A. Page illustrates this problem rather straight-forwardly in pointing out that the present generation could choose to radically overhaul its energy-producing infrastructure so as to reduce, as much as possible, the harmful future effects of climate change, thus bringing about a certain version of the future, or the present generation could choose to do nothing and allow the worst effects of climate change to take place, thus bringing out a different version of the future. In each of these possible futures, however, the multiplication of differences that result from the

[20] David Wood refers to this as "temporal externalization—dumping waste in the river of time." The idea here is that the future functions as an externality in a way analogous to the common habit of thought of thinking of, say, other nations, the deep sea, or outer space as places external to our own environment in which harmful wastes may be jettisoned so as to avoid the nefarious effects of those wastes for ourselves. Wood's point here is precisely that these externalities are no longer as "outside" as we need them to be—the wastes shunted off to the outside continue to have effects on what is ostensibly "inside." See Wood 2005, 174.
[21] See Parfit 1982, Parfit 1984; and Kavka 1982.

different paths taken not only change whether or not the worst effects of climate change would be felt, these differences would cause wholly different sets of persons coming into existence at all.[22] The problem, then, is that no set of actions can be understood to have *harmed* future generations, either by increasing their suffering or limiting their autonomy, because actions that would "allow the worst effects of climate change to transpire in the future" haven't negatively affected *a* future generation. Rather, it has become the condition for that future generation's existence at all.[23] Put differently, because the world that gives rise to the members of future generations and their interests will always depend on the actions undertaken in the present, the Non-Identity Problem asks us to forgo not only appeals to particular others that might exist in the future, but also to forgo the impulse to name particular interests or rights that would map onto members of future generations prior to their existence. Instead, future generations are taken up simply *as* our inheritors. The Non-Identity problem reduces future generations to their most abstract content. Future generations simply are those who will be determined by future states of affairs which themselves only come to be as the result of the decision of contemporary generations. Future generations are simply those whose existence is conditioned by the present.

And it is the insight that the actions of the present generation are cashed out in relation to future generations not as actions that either do or do not harm these future others or do or do not align with their interests, but as the very condition for the occurrence of future others, that highlights the importance of one particular set of intergenerational environmental problems. Nuclear waste ethics do not treat the constitution of future generations' existence or interests by

[22] Page 2006. See Chapter 6: pp. 132-160.
[23] Fritsch points out that the utilitarian recourse to impersonal metrics or worthwhile lives vs lives of suffering is thought in this context precisely as a way around the problem of indeterminate particular future others. But, of course, what counts as suffering or what counts as a worthwhile life is always going to need to be determined from the position of the present and so involves the projection of present interests onto indeterminate future others who will, it will always turn out, be determined as the kind of beings they are with the kinds of interests they have by our actions in the present. See Fritsch 2018, 36.

the decisions of actors in the present as incidental or secondary to the question of responsibility to future generations. Rather, in the case of the long half-life of nuclear waste, a thinking of the present as the condition for given futures is central to the entire network of that problematic and to the forms of present generations' attempts to address the issues this material remnant engenders.

1.3 The Long Life of Nuclear Waste and Nuclear Waste Disposal

Before we approach the problems raised by the very existence of nuclear waste and its long, long life, it will be helpful to review how exactly we understand what this material is and how it has come to be a problem. At its core, the issue is that since the inception of the nuclear age in the 1930s, highly radioactive materials have been used to generate energy and highly radioactive materials have resulted from this production as unusable waste. Using radioactive materials to generate energy is not terribly different in principle from the use of coal or petroleum products. These materials are all capable of undergoing a reaction that releases energy as heat which in turn can be used to turn turbines which generate electricity. When we use fossil fuels, for instance, this reaction is combustion. Today, when we use radioactive base matter like uranium, the heat-producing reaction is called fission—atom splitting. When fission takes place in the right conditions, a chain reaction is kicked off that allows for isotopes undergoing fission to cause other isotopes to undergo fission, thus engendering the continuous release of energy from a very small amount of matter for a very long time. Indeed, when compared with fossil fuels, the actual mass needed for nuclear fission to provide energy is so miniscule as to appear on balance sheets as almost trivial.[24] Further, unlike fossil fuels, these radioactive materials do not themselves produce carbon dioxide or other greenhouse gasses that will remain trapped in our

[24] Murray 2003, *passim*.

atmosphere and, as has been evidenced over the past 30 years, wildly destabilize the planet's climate. This is all to say that nuclear energy is thought of as highly efficient in that it requires very little material and produces very little waste.

But "very little waste relative to more widely used contemporaneous energy sources" is not the same as "no waste." When uranium is used to produce energy, only five to six per cent of that uranium's stored energy is converted into usable energy.[25] When that material is no longer suitable for energy production, the remainder retains a considerable amount of stored energy that continues to emanate out into the world at a level that is not sufficient for generating power in reactors but is still highly dangerous to organic matter proximate to it.[26] This matter, and other radioactive by-products that result from the use of radioactive materials for energy production, are what we mean when we talk about nuclear waste.

Now, much of this waste can be and is characterized by relevant regulatory bodies—such as the United States' Nuclear Regulatory Commission or the United Kingdom's Atomic Energy Authority—as "low-level" waste. Low-level waste emits dangerous levels of radiation but does so for relatively short amounts of time before returning to natural background levels. With low-level waste, the duration of this process is short enough that it is typically understood to require isolation for *only* 100-500 years.[27] Low-level waste comprises things like contaminated materials, gloves, suits, parts, etc., that have been exposed to radiation and, as such, give off small amounts of radiation themselves.

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[25] Andrén 2014, 6.
[26] Shrader-Frechette writes that "[e]ach of the more than eighty such products created in the fission reactor is capable of releasing ionizing radiation." Ionizing radiation is the name for energy released as radiation that is capable of changing the molecular shape of it comes into contact with other atoms —which is to say, ionizing radiation is what is capable of destroying or mutating organic matter. See Shrader-Frechette 1993, 13.
[27] Murray 2003, 129.

More troublesome for nuclear energy producers and regulators, however, is that some of this waste (minimally, a non-zero amount), like the plutonium, americium, and curium that is the result of some forms of nuclear fission, has properties that result in their being characterized as "high-level" waste. High-level waste is the spent fuel itself. This waste continues to give off dangerous levels of radiation for anywhere from a few days to as long as one million years.[28] In the slightly aseptic words of the United States Nuclear Regulatory Commission, this waste "is still thermally hot, highly radioactive, and potentially harmful."[29] It is harmful in that this waste continues to emit radiation, whether this be in the form of alpha particles whose relatively massive size prevents them from penetrating most surfaces, including skin, very efficiently (although they can and do certainly damage the organic surfaces that interfere with their trajectory) or in the form of much more dangerous gamma rays, capable of considerable penetration and which can therefore cause internal damage and mutation to the bodies and genetic structure of organic beings as we understand them.[30] Radioactivity, strictly speaking, refers to the process through which unstable isotopes disintegrate by shedding electrons, which continues until the isotope becomes stable—which is just to say that it stops shedding electrons in this way.[31] These emitted electrons are what allow for a chain reaction to occur in fission, as they are capable of kicking off a fission reaction in another proximate isotope of the right kind. Once the energy yield of a mass of radioactive material is low enough, it is no longer useful for energy production, although electrons continue to emit—the matter remains radioactive—until that isotope stops emitting electrons and is said to be stable once more. "Decay" is the process by

[28] Andrén 2014, 6.
[29] United States Nuclear Regulatory Committee 2019
[30] Here, a particularly invaluable resource for those with backgrounds outside of nuclear and energy physics is Van Wyck 2005. See especially pp. 3-29.
[31] Murray 2003, 13.

which electrons are shed on the way to a material becoming radioactively inert. The related term "half-life" refers to the amount of time it takes for half the amount of a given radioactive isotope to decay.[32]

The emission of harmful radiation is itself the operation of this waste's decay. As radiation is emitted, the mass of the radioactive materials will diminish until the amount of radiation released is no longer capable of causing harm. This process of becoming-inert is, obviously, highly desirable in its result. We would like for this waste to decay in order that its radioactivity would abate and return to normal background levels, and so that this matter might "return to nature," like much (but far from all) of our other waste. In such a form, the matter that makes up our waste could be re-appropriated, redetermined, and contribute in less circumscribed ways to the constitution of a future. Analogously, a paper cup can biodegrade, become soil and nutrients, help a tree grow, and this tree can be taken up by future generations in a variety of ways that a plastic bottle cannot. Jacques Derrida, to whom we will return in later chapters, describes this process in writing "[e]verything that is 'biodegradable' lets itself be decomposed or returns to organic nature while losing there its artificial identity."[33] This loss of an artificial and dangerous identity—radioactive waste—would, undoubtedly, be preferable to that matter remaining intact and toxic indefinitely. However, it is precisely the operation of decay that risks harming us. Indeed, were this waste truly immortal in the sense that it could not decay, no dangerous radiation would be emitted. The waste would remain self-same and so incapable of interacting with its surrounding environment. The issue here is precisely *that* this waste degrades. As the radioactive waste disperses itself in the world, as it loses its artificial identity,

[32] Ibid., 14.
[33] Derrida 1989, p. 828.

its emissions reengage with the world, including organic beings, and risk inflicting harm on them.

On these grounds alone, we should be highly suspicious of standard arguments in favor of nuclear energy that rely on its relative efficiency.[34] While it is true that, to our knowledge, neither high nor low level nuclear waste contribute to catastrophic changes in climate in the way that the by-products of fossil fuel combustion do, there is nonetheless a remainder when we use nuclear reactions to produce energy. And even though it appears to be the case that those remains are produced at a much lower rate than the wastes produced by fossil fuels, their long life means that this waste will accumulate for unimaginably long periods of time. Plutonium-239, for instance, has a half-life of 24,000 years.[35] This means that after 24,000 years, approximately one half of the initial mass of dangerously radioactive plutonium will remain. Radioactive abatement, the point at which the material no longer emits significant amounts of radiation, is usually estimated to take about ten half-lives.[36] In the case of Plutonium-239, then, we would expect it to take around 240,000 years before it becomes effectively radioactively inert. And over these 240,000 years, more newly-produced plutonium will begin its slow countdown to relative safety. It is difficult to know exactly how much waste currently exists globally—appeals to national

[34] And this is to say nothing of the oft-touted economic efficiency of nuclear energy production. Commercial nuclear energy production has, throughout its history, been financially propped up by government subsidies typically with the goal of justifying the continued production of weapons-grade plutonium rather than in the name of clean-energy initiatives. And this is without taking account of the costs presented in liability and damages accrued by governing agencies when workers and civilians find their health and the health of their communities negatively affected by the negligent management of nuclear energy facilities. It simply is the case that nuclear energy is considerably more expensive than many 'green' alternatives and that its appearance of affordability has largely been in the service of government sponsored arms manufacturing. See Shrader-Frechette 1993, 15fn17, 19; Shrader-Frechette 1991, 334; Flavin 1983; and Stewart & Stewart 2011, 78.
[35] United States Nuclear Regulatory Commission 2015.
[36] Van Wyck 2005, 6.

security are common here—but an educated estimate places the amount at about half a million tonnes in 2014.[37]

Let's be clear that a global total of half a million tonnes of radioactive waste is considerably less than the estimated 6,677 million tonnes of greenhouse gases that just the United States emitted in 2018 alone.[38] And it is also the case that many non-radioactive chemical wastes present enormous dangers to organic life that is often more immediately life-threatening in smaller doses, such as lead, arsenic, or mercury. These non-radioactive wastes are, as the name suggests, not undergoing processes of decay and can effectively endure indefinitely.[39]

But let us also be clear that when we call nuclear energy "clean" by comparing it to the out-of-control and immediately destructive production of greenhouse gasses or the often unregulated and unquestioned continued production of chemical wastes, we are letting ourselves adopt a myopic perspective driven by the bewildering fear that our current condition inspires. The apparent truth of the matter is that if we were to adopt nuclear energy as a new norm to avoid the most catastrophic results of the continued operation of international fossil-fuel capitalism, we would nonetheless be left with massive quantities of dangerous and long-lived waste that will pose health and management problems for millennia to come. Importantly, however, the decision to abandon both fossil fuels and nuclear energy as primary or secondary sources of energy in favor of methods that may entail the production of less long-lived or less dangerous by-products would nonetheless leave us with the greenhouse gasses already in the atmosphere and the half a million tonnes of nuclear waste we have already produced. Something

[37] Andrén 2014, 8.
[38] Environmental Protection Agency 2020.
[39] Murray 2003, 29.

will need to be done with the waste that is here, irrespective of the decisions made regarding future energy production.

In the United States, perhaps one of the most shocking aspects in the history of nuclear energy use and waste production is that legislating producers' responsibility for the permanent disposal of nuclear waste only occurred at government level in 1982, forty years after the world's first nuclear reactor went online beneath the University of Chicago's football field, with the creation of the Nuclear Waste Policy Act (NWPA).[40] Up to that point, the eventual goal of permanently disposing of waste was simply assumed by certain actors and ignored by others as a fuzzy problem for the future. The interplay between policy by way of assumed common sense and indifference turns out to be a pattern observable in American nuclear waste management that extends to the conceptual apparatus surrounding the ostensible imperative to relate responsibly to future generations at all.

The result of this slapdash approach to waste management principles and policy can be seen in spaces like Missouri's West Lake Landfill. 8,700 tons of nuclear by-products leftover from weapons production during and following the Second World War were dumped there in 1973 after having been temporarily stored in and around the Midwest for thirty years or more.[41] After years of reported illnesses and cancers by residents of the area, the proximate non-radioactive garbage caught fire underground in 2010, creating the risk of a "plume of radioactive smoke" descending over surrounding communities in a real-life reproduction of the 'Airborne Toxic Event' of DeLillo's *White Noise*.[42] In 2018, the American Environmental Protection Agency (EPA) committed to having the dangerous waste removed. As of 2020, the EPA is

[40] Shrader-Frechette 1993, 24
[41] CNN 2018.
[42] Chicago Tribune 2015.

"forming a plan to dig up and remove radioactive material posing a public health risk at the West Lake Landfill in the St. Louis suburb of Bridgeton," although "[w]ork is not expected to begin there for another 18 months."[43] Events like this, drawn out in space and in time, demonstrate the limits of *ad hoc* waste disposal tactics left to the realm of imagined self-regulation. There is clearly a need for an enforceable and effective policy in place for isolating existing and future nuclear waste.

There are essentially three possible avenues such a policy might endorse: reprocessing, transmutation, and permanent deep geological disposal. While all three of these options continue to attract motivated researchers and funding, the third, permanent deep geological disposal, is by far the most widely adopted strategy in global nuclear waste management. In the following section, we will quickly review these three options before continuing on with the issues that have become concretely manifest in effectively undertaking to bury something that would leave it undisturbed for thousands of years.

1.4 Reprocessing, Transmutation, and Deep Geological Disposal

Our use of nuclear fission to generate energy leaves us with waste. This much is certain. And this will remain true as long as the process of energy production falls short of one hundred percent efficiency (a prospect that is almost certainly beyond the realm of material reality). And even if nuclear energy production were abolished overnight, we would be left with the waste already produced. And, insofar as the waste produced is harmful, its very existence runs counter to the stated goals of nuclear energy use as outlined, for instance, in the United States' *Atomic Energy Act* of 1954, which simply states that "[t]he processing and utilization of source, byproduct, and special nuclear material must be regulated in the national interest and in order to

[43] Missourinet 2020.

provide for the common defense and security and to *protect the health and safety of the public.*"[44] In this case, the responsibility to keep the waste isolated simply follows from a general commitment to public health and safety. And it appears that, in this document and others like it, the extension of "the public" to apply to future persons as well as contemporary citizens of, say, the United States is understood to hold because there is no good reason for it not to. Here we see clear overlap with the general figuring of intergenerational responsibility laid out in previous sections. The present generation knows what the waste it is producing is capable of inflicting on others and knows that it will do so into the future. As such, there is a determination that the present generation bears responsibility for what will be done with that waste.

As we shall see throughout this chapter, the question of what this ostensible duty to protect the health and safety of the public entails is worked out in a more or less *ad hoc* fashion as the material requirements of waste disposal are determined. So, for instance, if public health requires that persons not be exposed to radioactive waste, then isolating radioactive waste becomes an imperative for protecting public health. Which is to say that the conception of responsibility towards the public that is being determined here now includes a responsibility to maintain isolation of the waste. And because the use of nuclear energy in general is being regulated according to this standard of protecting the health and safety of the public, nuclear energy itself becomes justifiable on the grounds that the health and safety of a public can be protected. In this way, properly disposing of the harmful by-product of nuclear energy production, high-level radioactive waste, is central to any justification of nuclear energy as an energy source in general, where "properly disposing" simply means something like "to reduce the harm this waste can cause to the public."

[44] Atomic Energy Act of 1954 42 USC 2012, emphasis added

Now, given what we know about our nuclear waste, its composition, and its effects, three possible means of disposing of this waste might occur us, even without advanced degrees in nuclear energy physics. We might think we could simply feed the spent fuel back into the fission reactors so as to continue to draw energy from this matter that is, by definition, still radiating energy. Or we might think that we could change the structure of the materials being fed into the reactor in order to increase efficiency. While 100% efficiency is probably impossible, getting as close to that level of efficiency as possible would drastically lower the amount of waste produced. Or, finally, we might accept that producing energy through fission creates waste and that this waste is dangerous, and so we should primarily be concerned with isolating this waste.

All three of these notions are reasonable responses to the situation that nuclear energy production has created, and these map onto the three strategies known as reprocessing, transmutation, and deep geological disposal, respectively. In what follows, we will briefly outline these means of disposal in order to help situate the appeal of deep geological disposal—burial—as the strategy of choice for the United States, Canada, Germany, and many other "smaller producers of nuclear energy".[45]

Before we do so, however, let us quickly appeal to some of our intuitions about two other forms of waste disposal that have been dismissed by all producers of nuclear energy for reasons that are more or less obvious, on reflection: deep oceanic and outer space disposal.[46] The Earth's oceans are vast and largely unexplored by human beings, and so harbor many undisturbed depths where no human being could accidentally encounter the waste deposited there. And, similarly, the cosmos beyond our planet's atmosphere is either actually infinite in its expanse or close

[45] Andrén 2014, 7.
[46] Although let us note that the deep ocean was indeed the disposal site of choice for most nations until 1975, when an international prohibition on the practice was introduced. See Andrén 2014, 6.

enough that it makes no difference to us here on Earth. Why not simply pack our waste into appropriate vessels and send it off to parts unknown?

Let us note that, already, this intuition that the unexplored expanses of space or the deep ocean appeals to that part of us that believes that since no one has traversed these spaces before, it is unlikely that anyone will do so in the future—even a future as unimaginable as millions of years from now. In the construction of discourses about possible future worlds, appeals to what has been possible are key, whether the one making that appeal to the past is critical of the project to hide away our waste or is searching for evidence that such efforts are worthwhile. We will return to this appeal to the presumed impossibility of what is simply unimaginable later in this section.

Without, yet, engaging with whether or not such expulsions from our known world would suffice to instantiate responsibility on the part of nuclear waste producers, there is a more immediate and concrete issue with either deep ocean or deep space disposal: risk. Namely, the risk of a breached container in the case of deep ocean disposal and the risk of a breached vessel, in the case of deep space disposal. As the thousands of tonnes of high-level nuclear waste are transported to what is meant to be its final destination, a single such breach would result in the radioactive contamination of the Earth's heavily linked aquatic biosphere or of the Earth's atmosphere. Because one such incident is all that would be required for the unimaginably dire circumstances to unfold, and because this practice of disposal is meant to be sustainable, in the sense of repeatable for the duration of nuclear fission's use as an energy source, it is clear that no one could simply guarantee that this disposal practice would be able to continue indefinitely entirely free from error. So, on the one hand, this is a case where, to borrow the language of Kristin Shrader-Frechette, "severity of consequences, not high probability of occurrence, is so

great that low-probability high-consequence events merit detailed consideration."[47] And, on the other hand and compounding a reticence to endorse such disposal strategies, over decades, if not centuries, it seems clear that, at least once, something might go wrong. In the words of Peter C. Van Wyck, "[w]ithin such temporal limits, probability models of containment failure converge on certainty in an asymptotic manner."[48] Risks become increasingly likely over time, and catastrophic effects might increase risk-hesitancy even when risk of occurrence is understood to be low. And so ostensibly less risky disposal strategies have been pursued.

The first of these is known as *reprocessing*. Reprocessing essentially isolates the high-level waste that might be suitable for "re-use" out from other components of waste and combines it with the spent primary fuel in a reactor. This allows for much greater efficiency to be achieved and so less waste is created overall and over long periods of time.[49] Worth noting is that this method is not one hundred percent efficient and that the resultant waste would still need to be isolated for as long as fifty thousand years.[50] Which is to say that a second-level isolating strategy would nonetheless need to be adopted to deal with this waste.

Other objections to reprocessing exist, which also take risk to be the fundamental metric at issue. As above, the risk of accidents during transport is non-zero. And, further, there are objections on the grounds that the plutonium produced through reprocessing is a particular danger should it fall into the hands of rogue actors bent on the use of weaponized nuclear energy.[51] Despite these objections, reprocessing is currently the "official policy" of China, France, India, Japan, Russia and the UK.[52] These countries have also taken up secondary

[47] Shrader-Frechette 1993, 84.
[48] Van Wyck 2005, 6.
[49] Andrén 2014, 6.
[50] Wallenius 2005, 103f. Cited in Andrén 2014, 6fn1.
[51] Vedung, Evert. 2005. Cited in Andrén 2014, 6fn2. See also Shrader-Frechette 1993, 20.
[52] Högselius 2009, 254-63. Cited in Andrén 2014, 6fn3.

strategies to deal with the waste that results from this reprocessing. Some are committed to storing it themselves, some transport it to other countries to be buried there. The increased efficiency of reprocessing is, without doubt, a worthwhile goal to pursue here as it can, potentially dramatically, reduce the amount of waste in need of disposal by other means. However, it does not solve the issue of waste disposal simply because it does not solve the issue of the existence of this waste.

The second strategy, *transmutation*, is appropriately alchemical in its nomenclature, as it refers to the process of transforming problematically toxic and long-lived by-products of nuclear energy production into more manageable material. Such efforts could reduce the "inventory" of spent hazardous high-level waste by a factor of 10.[53] Further, the results of this transmutation would not need to be stored for the hundreds of thousands of years necessary for some of today's extant waste. As little as one thousand years would be necessary.[54] Additionally, encouraging estimates suggest that transmutation could potentially reduce long-term radioactive toxicity one hundred-fold.[55] This is to say that transmutation promises to reduce the amount of waste that exists, to make that waste less toxic, and to require that this reduced amount of safer waste be stored for less time. As such, and as with reprocessing, while it is the case that transmutation would not render nuclear energy production one hundred percent efficient and so "will not replace the need for appropriate geological disposal of high-level waste," it is clear that this sort of research will play a key role in managing existing and future stores of high-level waste.[56]

[53] Salvatores and Palmiotti 2011, 148.
[54] Allow me to quickly point out that this too is an unimaginably long amount of time from the perspective of the functional and intentional survival of material structures and supporting institutions.
[55] Ibid., 162.
[56] Ibid.

Of course, the preceding paragraph is couched in hypotheticals not because there is any immediate reason to treat future research on transmutative technique with scepticism, but because such techniques do not as of yet exist in any large-scale or actionable sense. The costly and intensive development of transmutation technologies is an on-going project that has, so far, fallen victim to a lack of sustained commitment on the part of nuclear waste producing entities. The EU, Russia, and Japan are the main contributors to this research.[57] This is to say that transmutation as a waste disposal strategy is, at this stage, a promise at best and, in practical terms, only slightly more concrete than a thought-experiment. To continue to produce nuclear waste with the intention of seeing that waste transmuted, one day, is to justify that production on the grounds that future generations of researchers will dispose of this waste for us. Which is to say that this is an instance of treating the future itself as a sort of repository for the harmful effects of our actions. And we shall see the way that such a logic of deferred responsibility is central to deep geological disposal, to which we now turn, as well.

Deep geological disposal refers, quite simply, to burying the contained waste underground until such a time that the amount of radiation it emits is comparable to the normal background radiation we are exposed to in our quotidian life. As noted above, the amount of time this takes depends on the material in question. Some radioactive isotopes degrade very quickly—in a manner of seconds—and so become inert almost as soon as they come into being. Others, like the varieties of uranium or plutonium that are the results of nuclear fission as it is practiced today, can endure for thousands, if not millions of years. And so, the question of deep geological disposal is always tied up with questions of (extraordinarily) long-term isolation. In other words,

[57] Andrén 2014, 7.

protecting public health and safety is not simply a question of how deep this waste is buried, but how long it can be expected to remain there.

Finland and Sweden have the most advanced programs available for deep geologic disposal, but Canada, Germany, the United States, and, as of recently, the United Kingdom are also committed to this strategy to varying degrees. Their respective nuclear waste management agencies and corporations "are confident that they have found the ultimate solution to nuclear waste management," as Mats Andrén has it in his observation that the order of the day here is very much to solve this problem of waste once and for all.[58] Deep geological disposal is sometimes thought with the goal of being able to retrieve this waste in mind, on the basis that it might one day be valuable in ways that cannot be thought today—a notable exception to the tendency in these discourses to equate what is unimaginable (rather than simply as-of-yet technically unachievable) today with what is impossible in the future. Retrieval might also be desirable in that one of the aforementioned strategies—reprocessing or transmutation—might one day become viable for waste that had previously been buried. However, retrievability compromises, to some degree, the long-term capacity of a given site to maintain isolation. Which is to say that intentionally non-retrievable, or "permanent," disposal means trading off future flexibility for future security. For this reason, deep geological disposal is usually understood to refer to permanent interment.

Deep geologic disposal "until radiation returned to natural levels" is accomplished using two methods: rock salt and stable bedrock.[59] The goal in both cases is to avoid allowing water to contaminate the disposal site. Water is all too capable of transporting these toxic materials as it flows through the ground, which not only displaces this waste but provides it with access to

[58] Ibid.
[59] Ibid.

biospheres that interact with water cycles (that is, almost all biospheres). As such, these sites must be located in geologically stable areas that do not overlap with water systems and so are capable of keeping this waste in one place, undisturbed, for the period of concern. Again, this period of concern can be upwards of one hundred thousand years and is, depending on the material, potentially much longer. The United States' EPA currently designates the period of concern to be 10,000 years.[60] Let us be clear that this is both insufficient given the toxic lifespan of this waste and laughably unimaginable as a period of time for which isolation could be guaranteed. At Maxey Flats, Kentucky, the largest plutonium storage site in the world, it was estimated by experts that it would take 24,000 years for the on-site waste to migrate one half-inch. This estimate couched in the best models available fell woefully short, as it turns out that a mere ten years later the waste had moved two miles off-site.[61]

Maxey Flats is a site that was under constant supervision by those responsible for its maintenance. Over the 10,000 year period of concern, these sites will need to be capable of maintaining the isolation of their wastes not only in context where they exist alongside societies much like ours or societies that are potentially even more technologically advanced, but also autonomously and even in the face of potential probing by future generations unfamiliar with their contents in the event of one or more interruptions in the historical chain of the transmission of information. As van Wyck argues, "the time that must be thought is a discontinuous time. A time in which 'our' world can cease to be."[62] Over 10,000 years, institutional and political stability simply cannot be presupposed.

[60] See Murray 2003, 130 and Hora et al., 1991.
[61] Shrader Frechette 1991, 328.
[62] Van Wyck 2005, 6.

It is telling that when the United States Department of Energy (DoE) sought to recertify the Waste Isolation Pilot Plant (WIPP) for long-term deep geological disposal, it explicitly acknowledged that there is no acceptable methodology for predicting "the future state of society, science, languages, or other characteristics of mankind" and, as such, would limit itself to predicting the "future state of geologic, hydrogeologic, and climate conditions" by way of stipulating precisely that "the future state will resemble present conditions except for those relating to hydrogeologic, geologic, or climate conditions. For example, the population density and land ownership patterns in the Waste Isolation Pilot Plant's (WIPP'S) surrounding regions *are assumed to remain consistent with today's conditions for the next 10,000 years.*"[63] This stunning admission of pragmatic hubris undertaken in the name of preserving the predictive capacities of ostensibly more reliable methodologies at least demonstrates to us that the DoE doesn't take the assumption of political and social resemblance to be meaningfully predictive in character. It is purely an operating assumption without which the predictive capacities of geologic, hydrogeologic, and climate science would be meaningless.

The ability to predict is, in this way, centered in discussions relating to intergenerational responsibility for nuclear waste. And prediction in a certain mode: namely, a prediction that the future will resemble the present, to some degree. And in relating prediction and repetition to the possibility of responsibility, we are joining in a dialogue as old, at least, as Plato. This chapter's epigraph is taken from Plato's *Laches* where the subject of discussion is the nature of courage but quickly recenters itself around the question of knowledge of the future. Courage, Socrates helps us see, seems unlike exposing oneself to risk and danger without any knowledge of what one may face *and* unlike exposing oneself to risk and danger when one knows in advance exactly

[63] United States Department of Energy 2014, 25-1.

what they will face. Courage here is neither ignorance nor knowledge of the future. The titular general Laches grants that, for instance, enduring as a result of folly is certainly not courageous, which is just to say that holding out because of bad reasons or misinformation wouldn't typically be understood as courage. And yet, Laches also agrees that "he who in a cavalry fight endures with a knowledge of horsemanship is less courageous than he who endures without it" (193b). The dilemma, in the words of Michael Naas, is precisely that "courage is something that lies between mindlessness or folly, on the one hand, and knowing or calculation, on the other."[64]

It is at this point that Nicias, another general, offers that courage consists in knowledge of "what is to be dreaded or dared, either in war or in anything else" (195a). Nicias's definition here causes Laches to conclude, then, that courage can be said only of the seers, "for who else can know for which of us it is better to be alive than dead?" (195e). The notion here is that it is precisely those who could foretell the future that would be able to say, with certainty, we might add, just what ought to be dreaded and what ought to be dared for each of us. Laches, that is, again returns to the calculable as a measure of courage: if courage consists in knowing *what* is to be dreaded and dared, then the one who knows in advance is the one we could call courageous.

However, Nicias rebuffs Laches suggestion immediately, asking "What! Is it now a seer, think you, who has the gift of judging what is to be dreaded and what to be dared?" (195e). Nicias insists instead that the seer is only able to judge "the signs of what is yet to come" (195e) but that the seer is by no means in a privileged position to judge "what is better among these things for a man to suffer or avoid suffering" (196a). Which is just to say that a predictive capacity is no substitute for wisdom and the decision of what is for the best. In this way, Socrates

[64] Naas 1995, 124

affirms that knowledge of the future would simply be the projection of a knowledge of the past into the future.[65]

Such a view of predictive judgment is precisely what is at issue here, in the context of nuclear waste disposal. The equation of knowledge of the future with knowledge of the past grounds the coherence of prediction as a concept in general. If the future can be predicted, it must be insofar as it will resemble the past. And if courage is a kind of knowledge, then courage would require that we understand the extent to which the future would resemble the past so that we can know what evil and what good may come. And yet, at least in the case of courage, we have also seen that an abundance of knowledge seemed to undermine our efforts in some sense. Recall that the cavalry soldier with knowledge of their martial superiority over the less skilled foot soldier was not understood to be more courageous than that foot soldier. This is because taking on risks once one has understood that there is, in fact and to the best of one's knowledge, no risk at all requires no courage. One need not be brave to "risk" a sure thing. Of course, of interest to us here is precisely the efforts being made to eliminate risk altogether, to control the future through predictions so as to guarantee that the waste will not be disturbed by forces of nature or by inadvertent intrusion.

One of the remaining questions, therefore, is what the above-mentioned presumption of societal continuity and resemblance is supposed to accomplish. It is because deep geological disposal sites must be designed with long-term isolation in mind that the question of their

[65] To quote Naas again, "[i]f courage is, then, truly a *knowledge* of what is to be dreaded or dared, and if it is always the same knowledge that understands things in the past, the present, and the future, then courage must be a knowledge of what is best not only in the future but in the present and the past as well." Naas will go on to demonstrate that this view of courage as"being guided by a knowledgeable calculation of risks" is fairly consistent across Plato's dialogues, despite the aporetic treatment such a view of courage receives in *Laches*. In this way, we can trace the problem of relating to the future in terms of prediction and forecast from Plato through to the present as it appears in nuclear waste policy as precisely, a problem. How can we relate to the future in terms of pure calculation? And: how could we fail to do so? See Naas 1995, 128-9.

isolation slips beyond the purview of the techniques of material design and into questions of received comprehension and legibility. This is to say that not only must a given site's material structures endure for 10,000 years or beyond, but also that the communities that are situated around the site must, to a certain extent, be aware of the site's location, its purpose, and maybe even key aspects of site maintenance. And all of this information must be left behind in such a way that it remains comprehensible—readable or legible—for the duration of the waste's isolation. Indeed, what we are beginning to notice already is that the long-life of the waste requires that the structures of its containment replicate this longevity in order to be adequate to the task at hand. If this waste is to last 10,000 years or more, so must its container, and so must the information that makes sense of these sites and their contents. There is a sense in which the material logic of the waste itself—that it decays over long periods of time, that this decay entails its constant reintroduction into unpredictable future contexts—is contagious. The question is whether it is possible to make a container or a message as durable as radioactive waste can be.

In the pages that follow, we will follow the work of Kristin Shrader-Frechette and Peter C. van Wyck, who engage in two key questions concerning the implementation of deep geological disposal: the epistemological limitations of efforts to design and site repositories that could meet the demands of radioactive waste and the semiological requirements this strategy will entail.

1.5 Transmission and/of Responsibility

More than any other contemporary author, Kristin Shrader-Frechette has endeavoured to provide a thorough and considered account of the overlap between the technical issues that dominate the thinking of deep geological disposal and the ethical and epistemological problems that follow from this waste disposal strategy. Critical to Shrader-Frechette's approach to this

project throughout her published work is an appeal to the heavy-lifting that inductive reasoning plays in thinking the viability of long-term waste storage and isolation. Indeed, Shrader-Frechette argues in her seminal 1993 text *Burying Uncertainty: Risk and the Case Against Geological Disposal of Nuclear Waste* that the manner in which deep geological disposal is taken up in its technical aspects is inconsistent with the methodological commitments of the very scientific disciplines whose findings are employed to justify this disposal strategy, such as geology.

It is not so difficult to imagine that, when choosing where to site a disposal facility that will need to maintain the integrity of the isolation it has been designed to provide deep underground, a certain level of geologic stability would be desirable. It would not do to place such a facility in an area prone to earthquakes or an area through which ground water moves frequently. As such, decisions about where to place such a site are caught up in an effort to predict what changes potential sites can expect to undergo over the next 10,000 years. Citing contributors to and peer reviewers of an evaluation of one such possible site, Yucca Mountain in Nevada, USA, Shrader-Frechette reveals that the consensus among geologists runs precisely counter to this goal, in that, in the words of contributor K.V. Hodges, geology is "an *explanatory* and not predictive science."[66] Hodges summarizes the problem of induction in practical terms by adding that predictive geology runs into issues insofar as it requires geologists to assume that "the past geologic record is the key to future geologic activity."[67] To demand such predictions would be, on Hodges's account, "asking the impossible."[68] Impossible not only because, as these working geologists have it, the earth sciences lack the tools that would allow them to make such prediction, but because, as David Hume argued, "we can at least conceive a change in the course

[66] K.V. Hodges, "Comment" in J.L. Younger et al. 1992, 362; cited in Shrader-Frechette 1993, 43.
[67] K.V. Hodges, "Comment" in Younker, Albrecht, et al. 1992, 362-3, cited in Shrader-Frechette 1993, 43.
[68] K.V. Hodges, "Comment" in Younker, Albrecht, et al. 1992, 384, cited in Shrader-Frechette 1993, 44.

or nature; which sufficiently proves, that such a change is not absolutely impossible."[69] Deep geological disposal of radioactive waste requires continued isolation. Continued isolation requires stable geological features not only today, but for the next 10,000 years or more. And so, the practices of geological science are directed towards determining where such stability can be found. And yet the presumption of uniformity, that our geological past can predict our planet's geological future, is ruled out by geologists for the same reason that such uniformity is understood to be unjustifiable by Hume—deviation from uniformity remains conceivable, even if improbable, in principle.

Shrader-Frechette appeals to this problem of induction in her critique of radwaste management in her "Ethical Dilemmas and Radioactive Waste." There, she insists that the use of induction in siting and material design is not simply unjustified but fallacious. She writes: "[m]ost of the epistemological difficulties with radwaste arise from the fact that secure storage cannot be guaranteed. Hence, regardless of the technology used, anyone who favors a particular method of radwaste management must use some form of the fallacy of the appeal to ignorance. Namely, 'I know of no way in which containment could be breached; therefore, containment will probably not be breached.'"[70] Shrader-Frechette's invocation of this fallacy of the appeal to ignorance can be translated into a variety of contexts related to the design, siting, and use of deep geological waste facilities at large. Geologists, here, are being asked to affirm that, because they cannot imagine the appearance of ground water in a given location, it is impossible for ground water to appear. Geologists are being asked to do the impossible because they are being asked to rule on the impossible in advance—to assert that a certain change in material conditions is impossible. The constraints imposed by the material reality of the waste itself puts these

[69] Hume 2000, 1.3.6.5
[70] Shrader-Frechette 1991, 331-2.

scientists in the position of Laches's seers wherein they must read the signs and predict in advance what is to be dreaded and dared.

Indeed, what we are observing in this demand made of geologists in the face of epistemic limitations is the concretization of the strictures of responsibility seen above and represented by the position of Birnbacher in the *Handbook*. If we are responsible only for what we know, and we know that this waste will remain dangerous for thousands of years, then our responsibility also requires that we know the extent to which that waste can be kept isolated. Thus, the demands being placed on geologists to make the sorts of predictions that would be necessary for the present generation to lay claim to the status of "having been responsible."

Here it is helpful to recall that the reason for engaging in a project of waste disposal in the first place is in order to justify the use of nuclear energy in the sense that nuclear energy does not unduly threaten public health and safety. To critique the project of deep geological waste disposal on the basis that it depends on the fallacy of the argument from ignorance is to severely undermine the viability of that strategy as a whole. A future-oriented project with the goal of maintaining isolation of a hazardous material over time necessitates making claims about what that future will look like—or, more to the point, making claims about what the future can be prevented from resembling. Importantly, Shrader-Frechette argues here that the epistemological issue that stems from use of the fallacy of the appeal to ignorance transcends any particular technical solution to the problem of disposing of nuclear waste. Troublingly, because this project of isolation has as its goal the insurance that future inhabitants of Earth are protected from the toxic effects of waste produced before they came to be, it is the case that present generations' responsibility towards these future inhabitants is, here, conditioned by a fallacy. To undertake to keep this waste isolated is to make predictions about what will not happen. Or, put differently, to

behave responsibly here is to assert the impossible: that it could be known in advance whether or not this waste can be isolated.

Critics of permanent deep geological disposal like Kristin Shrader-Frechette and defenders of this strategy, like physics professor and popularizer Raymond Murray, agree that a standard of guaranteed isolation of radioactive waste is, quite simply, unrealistic. Instead, it is a question of risk and risk acceptability, as well as a project of information distribution and process transparency that might lead to something like what Mats Andrén calls "legitimacy."[71] The idea here is simply that a risk can be undertaken if those at risk understand and consent to that risk. Hence Gardiner's intuition above that what seems unjust about current actions that will affect future generations is that these actions are being undertaken without the consent of those affected. Informed consent is an enormously complicated issue whose history goes beyond the bounds of what this project can offer, but it is worth mentioning due to the central role risk management plays in contemporary nuclear waste policy and the way in which a thinking of consent becomes complicated as soon as questions of future persons become trenchant.

Briefly, Shrader-Frechette addresses what she calls the "consent dilemma" in the sense that it appears that "those most able to give free, informed consent are usually unwilling to do so, and those least able to validly consent are often willing to give alleged consent."[72] For Shrader-Frechette here, "free, informed consent" is what it means for consent to be valid. That is to say, an insufficiently informed person or a person who has no material means to refuse assent cannot be said to have consented validly. The dilemma in question is that, for certain activities of sufficient risk, those who are able to consent validly—those who are sufficiently informed and able to refuse—would not do so, whereas those without sufficient information or ability to refuse

[71] See Andrén 2014, passim.
[72] Shrader-Frechette 1991, 335.

are likely to consent—a consent that we would here need to describe as invalid. This consent dilemma is one that Shrader-Frechette finds at issue in present-day debates surrounding the health and safety of those who would work where radioactive waste poses a risk and of those who live in areas where radioactive waste poses a risk. The inhabitants of the area surrounding Missouri's West Lake Landfill who have suffered disproportionate incidences of cancer as a result of improperly disposed radioactive waste were wronged, on this account, not only because they have not been compensated for the harms done to them (whatever "appropriate compensation" for decades of additional cancers might look like), but also because they were never able to consent to that waste's being placed near their community in the first place, and because the lack of transparency surrounding this "illegal" dumping of waste made valid consent impossible.

Gaining the presumed or hypothetical consent of future generations that will be affected, perhaps negatively, by siting currently existing radioactive waste in a given area is made complicated because it is not clear what it would mean for an as-of-yet non-existent person or community to provide valid consent. And instantiating representatives to speak on behalf of the interests of future generations runs into the issues presented by the Non-Identity Problem, as seen above, insofar as present generations have no access to the interests of presently non-existing persons whose existence will turn out to be conditioned by whatever action is pursued in the present.

For the sake of simplicity here, let us limit ourselves to the two conditions for valid consent Shrader-Frechette names above: adequate information and the capacity to refuse. It is entirely unclear the extent to which any future generation is in a position to refuse the waste that is bequeathed to them by those of us in the present currently benefitting from nuclear energy

production. A later chapter of this dissertation will take up the question of the notion of accepting or rejecting an inheritance, but it is already clear that this pared down version of justifying risk through an appeal to consent would run into difficulties as long as consent is understood to be the sort of thing that one is free to refuse to give.

Worth noting, however, is that in standard interpretations of the relation between current and future generations, an asymmetry that results in future generations being unable to consent to risky propositions initiated by present generations is often taken up as a power imbalance on the side of future generations. Namely, future generations are understood as unable to reciprocate the benefits they accrue from past generations. John Rawls refers to this imbalance as a "chronological unfairness" in that "those who live later profit from the labor of their predecessors without paying the same price […] We can do something for posterity but it can do nothing for us."[73] The asymmetry Rawls notices is itself inherited from the bafflement of Immanuel Kant at the notion that older generations work for the betterment of younger generations despite the fact that the privilege of benefitting from the hard work of previous generations belongs only to their successors.[74]

Matthias Fritsch points out that Rawls solution to this problem of nonreciprocity can be found in Rawls' use of the conceptual "veil of ignorance," from behind which contracting parties are unsure of what their position will be and, as such, would agree only to a contract that would be worthwhile for the least benefitted party in order to safeguard against the possibility that, once

[73] Rawls 1971, 291.

[74] In the Third Thesis from Kant's "Idea for a Universal History from a Cosmopolitan Point of View, Kant writes: "It remains strange that the earlier generations appear to carry through their toilsome labor only for the sake of the later, to prepare for them a foundation on which the later generations could erect the higher edifice which was Nature's goal, and yet that only the latest generations should have the good fortune to inhabit the building on which a long line of their ancestors had (unintentionally) labored without being permitted to partake of the fortune they had prepared. However puzzling this may be, it is necessary if one assumes that a species of animals should have reason, and, as a class of rational beings each of whom dies while the species is immortal, should develop their capacities to perfection." See Kant 2001, 14.

the veil of ignorance were lifted, they might find themselves among this least benefitted party.[75] And we might appeal to Rawls again here in the context of gaining consent or, at least, working from a position wherein we assume the position of a future generation and ask whether or not such a generation *would* consent to a given arrangement. That is to say that the problem of consent need not be centered, as in Shrader-Frechette's "consent dilemma," on the capacity of any particular affected party to meet the conditions for free, informed consent. Rather, the question might be one of working out what a future generation that is free and informed *would* consent to, and then making that decision.

Shrader-Frechette's articulation of the fallacy of the appeal to ignorance, however, provides us with an important rebuttal to the Rawlsian project of hypothetical consent for an assumed position. As a reminder, the fallacy of the appeal to ignorance, as Shrader-Frechette has it, runs "I know of no way in which containment could be breached; therefore, containment will probably not be breached." Here, by analogy, we might say "I know of no what in which future generations could object to a certain imposition of risk; therefore, future generations will not object to a certain imposition of risk." In both cases, the impossibility of imagining alternatives is taken as evidence of the impossibility of alternatives. Which is just to say that attempts to name future interests or future risk-acceptability thresholds in advance succumb to epistemological limitations that throw the viability of that particular strategy into serious doubt. Recall, here, that responsibility is being figured throughout these discourses as limited by epistemological access—we cannot be responsible for what we do not know. As such, these future-oriented projects of responsibility continuously take the form of determining our

[75] Fritsch 2018, 30.

responsibility in terms of those futures that are imaginable, and so exculpating ourselves from what has not been foreseen.

For the sake of argument, let us grant that the material integrity of a given waste repository is geologically secure, despite the admission of geologists and legislating institutions that such knowledge is beyond our capacity. And let us for now bracket the first condition for gaining consent, the freedom to refuse, on the basis that something like presuming consent of future generations could be adequately worked out, even though the Rawlsian veil of ignorance amounts to deploying an epistemological fallacy for the sake of allowing present generations to assume to position of future generations. Even if we simply assert the success of these two already seriously problematized endeavors, the second condition for gaining consent, adequate information, introduces a massive complication to the project of long-term radioactive waste disposal. Whether this information is for the purposes of securing the presumed consent of a future generation or future generations or if this information is, pragmatically, simply meant to ensure that future generations do not accidentally compromise the integrity of the repository, it is never simply a question of whether the material constraints of the waste repository are up to the task of maintaining isolation. The issue remains of informing future generations. In this way, our epistemological problem is further complicated. Not only must the present generation undertake to know what the future will broadly resemble, it must also endeavour to understand what future generations themselves will know and so undertake to predict what these future others will be able to understand.

The fascinating subfield of nuclear semiology is inaugurated by the demand posed by an understanding of responsibility wherein future generations must be adequately informed of the waste they will inherit. The late twentieth century saw numerous research projects sponsored by

state institutions meant to determine what steps could be taken to ensure that future generations be in a position not only to inherit the waste and its long-lived container but to inherit these responsibly. Since, as we saw above, the working assumption is that no one can be responsible for what they do not know, the project here is to allow future generations to become responsible themselves by way of transmitting knowledge. There is, to my knowledge, no clearer articulation of this thesis than the following pronouncement by the stunningly named Human Interference Task Force, (HITF) auspiciously published in 1984. The HITF writes: "Future societies with knowledge of the existence and location of the [nuclear waste] repository, its contents, and the risks of interference, bear the full responsibility for any of their actions that can reasonably be expected to adversely affect the performance of the repository."[76]

Not only will knowledge of the waste repository allow future generations to be responsible, then, it will allow future generations to take up *full responsibility* for their actions, which is to say that sufficient knowledge here will *fully disentangle* the present generation from any responsibility for those same actions. The responsibility of the present generation will come to an end the moment that future generations know what they need to know to become free to decide for themselves what must be done. It is not through the guarantee that the waste remain isolated that the present generation asserts its responsibility, nor is it in working out the sense in which future generations should or should not be determined in advance. The condition for responsibility has changed. Now, responsibility is determined strictly in terms of knowledge. As such, there is no more pressing concern for the present generation than doing all it can to secure the transmission of the knowledge that will free it from responsibility, once and for all.

[76] Human Interference Task Force. 1984, 8

Intergenerational communication is now taken up as the condition for responsibility in the present and in the future.

In order to work out the risk of future others interfering with a waste repository, the HITF had to ask itself questions like "what could future generations be assumed to know?" and "what of the present generation's knowledge could be lost?" The HITF imagines that if the site of the repository or general knowledge of the risks of radioactive waste fall out of cultural currents of knowledge, the risk of accidental interference would increase. Direct linguistic continuity with these future generations—recall, up to 10,000 years in the future or more! —could not be assumed, although sufficient knowledge of "atom physics" was assumed on the basis that any future society capable of interacting with the repositories (buried deep within the earth) in a meaningful way will possess a certain technological capacity and scientific understanding.[77] As such, the information transmitted through time must be presented so as to remain legible in wholly new and unforeseeable circumstances. The project of responsibility here takes on the character of working out ways to increase the likelihood of the present generation's knowledge and warnings being read in the way that the present generation wants by indeterminate future others.

Semiotician Thomas Sebeok participated in the HITF and, appropriately, foregrounded the question of the stability of the signs used to communicate information. Sebeok's recommendation was, therefore, that the requisite information be transmitted in such a way that it be independent of "any one language-and-culture."[78] To allow relevant information to exist independent of the conditions of its production and so be taken up by future generations regardless of their social and cultural formation would keep the warning alive in general ways.

[77] Ibid., 11-12.
[78] Sebeok 1984, 24.

The strategy Sebeok suggests is the establishing of an institution of what Sebeok referred to as an "atomic priesthood, that is, a commission of knowledgeable physicists, experts in radiation sickness, anthropologists, linguists, psychologists, semioticians, and whatever additional expertise may be called for now, and in the future."[79] Here we see a clear appeal to the possibilities revealed to us by the past as a means of constructing possible futures— "deeply cynical," as Peter C. van Wyck describes it, as it may be. Namely, the suggestion of the atomic priesthood is couched in the empirical fact that religious institutions have, historically, allowed for continuation of socio-cultural source texts in some capacity across linguistic and cultural differentiations. And specific appeal to religious institutions is noteworthy in that Sebeok appeals to the trappings of religion as a means of instantiating "the groundless hope that the semiotic decomposition of the sign will take place at a slower rate than the nuclear decomposition of the waste. The sign must outlive the waste; a question of half-lives," to borrow the evocative formulation of van Wyck.[80] And Sebeok suggests here that articles of faith and myth possess a resilience that raw scientific formulations might not possess.

Other suggestions less dramatic than the atomic priesthood were made, each with the same goal—to create conditions under which the present generation can know that it has done all that it can to ensure that its knowledge is sufficiently transmitted for future generations to begin to bear full responsibility. These include projects outlined in the introductory chapter to this dissertation: a striking "valley of thorns" that would dominate the landscape surrounding the repository to suggest artifice and danger and the cultivation of a species of fluorescent cacti to communicate radioactivity.[81] HITF speculators took it as a safer bet that while the meaning of

[79] Ibid., 26.
[80] Van Wyck 2005, xvi.
[81] See Human Interference Task Force 1984 and Hora et al 1991.

particular linguistic markers might become illegible over time, sensory symbolisms might continue to impart meaning for millennia to come, especially if cultural institutions like the atomic priesthood can reinforce the desired connotations of these symbols.

Key to these strategies is the notion of redundancy, namely, that the multiplication of the occurrence of the messages containing the necessary information will similarly multiply the chances for this project's general success. Following the HITF, the U.S. Department of Energy formed the "Futures Panel," charged in 1990 with "identifying the range and possible configurations of future societies that might occur in the region of the WIPP within the next 10,000 years, in order to establish the modes and probabilities of various inadvertent intrusion scenarios."[82] The Futures Panel, in its speculating about possible futures, recognized that any given mode of transmission could, potentially, become lost or fail to arrive at its destination, even when its destination is as unspecific as "the future." As such, the project began to shift further towards efforts to institute passive control measures that might limit possible uninformed human interference at the same time that separate measures sought to create sufficiently informed inheritors to alleviate the present of its responsibility.

The situation that the present generation most wishes to avoid is simply that the waste will outlive the information that accompanies it. For should such a future come to pass, and because the present generation is, either implicitly or explicitly, committed to the precept that one must possess knowledge of something in order to be responsible for it, then future generations *could not* inherit responsibility for the waste that survives the generation that has produced it. And, under those conditions, the present generation finds itself in a position of infinite culpability. As such, as much for the good of the present generation as for the good of its

[82] Ibid., 50.

inheritors, some form of knowledge about the waste, the repository, and the risks of disturbing these must also be inherited. And, as groups like the HITF and the Futures Panel have discovered, the best way to ensure that the future be capable of the task the present sets it is to undertake to change the shape of that future so as to make inheriting information as automatic and unavoidable as inheriting the waste itself.

1.6 How Nuclear Waste Policy Understands Responsibility as the Project of Pre-Determination

In *Fuel Cycle to Nowhere: U.S. Law and Policy on Nuclear Waste*, Richard and Jane Stewart provide a helpful formulation of what is at the heart of the intergenerational ethical imperatives outlined so far, asserting that it might be the case that "our obligation is to give succeeding generations a real choice and the opportunity to make their own decisions, while not imposing a burden that those future generations may not be able to manage."[83] None of the strategies or complications we have seen so far contradict this version of expressing an intergenerational responsibility. Reprocessing and transmutation are enticing precisely because these processes promise to reduce the amount of waste future generations will inherit, thus reducing the burden borne by those generations when it comes to managing the waste they inherit. Non-permanent waste disposal of the kind recommended by Shrader-Frechette and Andrén is appealing precisely because of the flexibility it affords the present generation in making decisions with its own waste and because of the minimized absolute commitment it makes on behalf of future generations. And permanent geological disposal, despite foreclosing the sorts of revaluations of past decisions that temporary disposal would afford, nonetheless seeks to lessen the burden on future

[83] Stewart and Stewart 2011, 12.

generations by way of reducing the demand for "constant maintenance," to use Andrén's language, that non-permanent disposal requires.[84]

In all cases, the version of responsibility being appealed to insists that responsibility towards others means reducing as many pre-determinations as possible and so letting our future others be themselves most of all. To summarize this impulse, we could say: responsibility to future generations is maximizing the potential autonomy of future generations. Responsibility is, ostensibly, doing what can be done to ensure that future generations give themselves their own law. In this sense, intergenerational responsibility simply takes up the form of the ethical imperative found throughout the history of Western philosophy and most clearly elaborated by Immanuel Kant: morality is maximizing autonomy.

And yet, as we have seen, the crux of the issue turns out to be the question of whether or not future generations can be said to have been made sufficiently informed to take up responsibility for the inheritance bequeathed to them for the present generation to hand responsibility off to future generations, fully. As such, it is the reception of information that has become the condition for responsibility, rather than the pursual of any particular environmental policy in relation to nuclear energy. Responsibility for the future has come to mean the same thing, as per expert judgments on the justifiability of nuclear energy production, as adequately communicating with future generations.

The irony here is that the need for future generations to be correctly informed about their inheritance has been established in the name of creating the conditions for future generations' autonomy, but the insistence that this information arrive at its destination for present generations to have been responsible means that present generations find themselves subject to a self-

[84] Andrén 2014, 3.

interested imperative to determine in advance what future generations' contexts will be so that this information remains legible. Which is to say that, in the name of the autonomy of future generations, the context of these future generations must be determined, maximally, by earlier generations. The sites of the present generation *must* remain legible for the present generation to meet the obligations they have set for themselves. In this way, future generations' being determined by their others—their ancestors—has been conceptualized by the architects of nuclear waste policy as a condition for future generations' autonomy. In this way, the problem of induction that Shrader-Frechette situated centrally within the problematic of nuclear waste is side-stepped because the goal has become precisely to work to ensure that the future will resemble the past.

In a sense, the situation with nuclear waste almost exactly reverses the typical limits of thinking waste as expressed by Luis I. Prádanos, who writes: "usually, waste is left out of the dominant 'distribution of the sensible' (as Rancière would put it) and its symbolic order, which determines and prearranges what can be visible or thinkable in advance and therefore significantly limits our epistemological, imaginative, and political possibilities."[85] In the case of nuclear waste, we see that what has occurred is that, by insisting that waste enter into a sensible and symbolic order for the present and for the future in order that responsibilities become capable of being resolved and handed off, waste has, by determining and prearranging what must (and this now carries the force of an imperative) be visible *and* thinkable in advance turns out to be a limiting factor for future generations generating epistemological, imaginative, and political possibilities that might differ from those the present generation sets out for them.

[85] Prádanos 2018, 165.

Prádanos's goal in his formulation is to introduce waste as a disruptive concept that cannot co-exist with myopic growth-driven narratives about possibility, and it seems undeniable that the effort to render waste invisible is undertaken with precisely the goal of allowing such a hegemonic narrative to continue its operation unabated. After all, it is precisely the effort to keep nuclear waste invisible and isolated as it performs its own decay that sets the communication-as-responsibility machine in motion. What is at issue is that waste, in the case of nuclear waste, at least, enters into such an order so that it might then become a visible invisible, a hidden thing whose being-hidden must remain at issue for future generations so that the present generation can be comforted that, one day, their responsibilities will come to an end. And in this way the waste itself becomes yet another site of predetermination and limited possibility. The waste must be inherited in the way that the present insists, so that future generations can be responsible, so that the responsibilities of the present generation may come to an end.

The following section will turn to a perhaps unexpected place, the work of Italian Marxist theorist Antonio Gramsci, to explore what is at stake in this particular version of conceptualizing of the future. For these nuclear waste policy justifiers now conceive of the future as the sort of thing that *has to be predicted* and whose potentials *must be accounted for in advance* for a relationship like responsibility to exist at all. And in his early-twentieth century writings on the utopian project of radical societal and economic change, Gramsci (and his later commentators) took great pains to consider what it means to relate to the future by way of prediction and, importantly, what it means for that relating when these predictions fail to hold

2. Gramsci and the Half-lives of Inheritance

All this in the normal course of events. When events are repeated with a certain rhythm. When history is developing through a series of moments, each more complex than the last and richer in meaning and value, but nonetheless similar.
Antonio Gramsci, "The Revolution Against *Capital*"[1]

2.1 Inheriting Gramsci

The questions with which we begin this chapter are as follows: can the justification for the indefinite isolation of nuclear waste rest on a conception of responsibility that insists on future generations inheriting that waste in the way that its producers have laid out in advance? What would the failure of this inheritance to reach future generations in this prescribed way mean for responsibility? And can such a strategy be said to be undertaken in the name of the autonomy of our inheritors? In order to begin to address these questions, we now turn to the work of the early twentieth century Italian Marxist Antonio Gramsci.

The decision to turn to Gramsci here is not as aleatory as it might seem a first glance. Gramsci was, from his very earliest writings in the late 1910s, consistently interested in futurity. Gramsci's interest in thinking future-directed action is most practically instantiated through an engagement with competing conceptions of political possibility and transformation. This took place as part of a debate staged between various leftist authors and newspapers in early twentieth century before right-wing forces led by former PSI (*Partito Socialista Italiano,* the Socialist Party of Italy) leader Benito Mussolini seized power in 1922. In this context, it is important to note that Gramsci's thinking explicitly rejected utopianism in the sense of being caught up with

[1] Gramsci 1994, 41.

particular images of ostensibly more emancipatory or just future societies (and this for reasons we will see below). Rather, Gramsci's concern with futurity and possibility took the form of taking seriously the present's role as the intermediary between a received past and a yet-to-be-determined future.

Almost ten years before his 1926 arrest and subsequent incarceration led to the creation of the famous *Prison Notebooks*, the young Gramsci edited a single-issue collection of essays published by the Young Socialist Federation of Piedmont, mostly (but not entirely) written by Gramsci himself, entitled *La città futura* – the city of the future. This text is interesting not only for the way that it quite explicitly plays out the tensions in Gramsci's own commitments to the two titans of Italian philosophy of the day—Benedetto Croce and Giovanni Gentile—but also for the way that it concerns itself with the sorts of philosophical questions that will continue to occupy him until the end of his life. Among these are not only a deep concern with historical forms of political order—a thematic that will later form the "leitmotif of his entire prison opus" under the name of "hegemony," to borrow a formulation of Joseph Buttigieg, Gramsci's most significant translator into English[2]—but also an abiding fascination with utopic thinking, inheritance, and futurity.

Indeed, as we shall see, Gramsci's early writing evidences a serious thinking of what is at stake not only in imagining different futures, but in the very project of such imagining as a political project. I argue that Gramsci's critique of a certain kind of utopianism in this early text in particular finds its ground not only in his uncomfortable inheritance of Croce and Gentile, an inheritance he will never truly disavow,[3] but also in his early training in philology and

[2] Buttigieg 2002, 70.
[3] See Bellamy and Schecter1993, and Bellamy 2001, 241.

linguistics.[4] Because Gramsci helps to thematize and clarify stakes and problems in committing not only oneself but an entire generation to a project of creating a future, these early texts provide us with a fascinating point of departure from which to explore the tensions apparent in contemporary nuclear waste policy in their political, ethical, semiotic, and utopic dimensions.

The goal for this chapter will be to turn to a specific text from *La città futura*, translated as "Three Principles and Three Kinds of Political Order," and to find there Gramsci's critique of a certain empirical utopianism. There is an affinity here with an understanding of responsibility as the sort of thing that the present generation can "discharge" if and only if future generations really do (empirically, we can add) come to inherit the present generation's wastes in exactly the way the present predicts. We will aim to unpack this critique of a utopianism of particular states of affairs through a reading of significant passages from this short text, situating the text in relation to Gramsci's synthesis of the idealisms of both Gentile and Croce, and relating it to later writings of Gramsci in order to argue that this critique in fact presages in a significant way the sorts of commitments to the thought of history and language as processes of sedimentation that shaped Gramsci's writings in the years between *La città futura* and Gramsci's death in 1937. In this way, we will see the fundamentally futural dimension at issue in key Gramscian terms like "common sense," "ideology," or "hegemony."

The final section of this chapter will attempt to redeploy the critique of certain forms of utopian thinking made by Gramsci in *La città futura* against Gramsci's own argument. In this way, we will find that Gramsci already provides us with the tools necessary to advance a thinking of futurity that is not only sceptical of empirical prediction—such as, for instance, the fortune-telling involved in working out how future generations will receive our waste—but is

[4] See Carlucci 2013; and Carlucci 2011.

also sceptical of programmatics in general, contra Gramsci's own commitment to thinking the inheritance of principles in his pre-carceral writing. Indeed, the final argument of this chapter will be that by taking this early argument of Gramsci's further than Gramsci himself maps out in "Three Principles and Three Kinds of Political Order," the pieces are in place to begin articulating a critique of conceptions of responsibility that trade on the present generation's ability to determine the future in advance, even when that determination occurs as the inheritance of a set of rules or principles that ostensibly safeguard our inheritors' autonomy. And so, it will be with some Gramscian vocabulary and insights in hand that these questions of inheritance and futurity will, in the next chapter, be taken up though some of the writings left to us by Jacques Derrida.

2.2 Early Gramsci, *La città futura,* and the Concrete Realization of Principles

Let us begin by looking at the context surrounding "Three Principles and Three Kinds of Political Order" (it. *Tre principii, tre ordini*), an essay published in the single-issue journal *La città futura* in February 1917. By 1917, Gramsci had already abandoned his study of linguistics at the University of Turin and had dedicated himself to journalistic work full time. His work as a journalist was primarily tied to the then-leading leftist party in Italy, the *Partito Socialistia Italiano* (PSI) and, indeed, his first national publication was a commentary on the interparty conflict on the question of interventionism in the First World War. His 1914 "An Active and Functional Neutrality" took the position that the "absolute neutrality" espoused by the PSI in conformity with the official position of the Second International amounted to an avowed impartiality of the party which would enable opportunistic opponents to be free to act and shape events as they pleased, "creating their own opportunities, and preparing the platform for the class

struggle for themselves."[5] The worry here was simply that the absolute neutrality of the Second International would allow leaders of the dominant, capitalist political class to determine the terrain for instances of class struggle that would occur during and after the war.

In the name of resisting this sort of passivity on the part of the working class and "forcing the class in power to assume its responsibilities, forcing it to carry its premises through to their logical conclusions, to submit to an examination of the way in which it has been preparing for the end which it claims as it its own,"[6] Gramsci instead allied himself with then-PSI left leader Benito Mussolini in espousing an active neutrality wherein the working class would not stand in the way of the leading class, the bourgeoisie, leading the Italian nation into war.

Gramsci's defense of Mussolini's position came at a high cost even before Mussolini's own future trajectory took shape. As Hoare and Nowell Smith write in their Introduction to the widely read English collection *Selections from the Prison Notebooks*, this "mistake" on Gramsci's part led to the accusation that he himself was an "interventionist" for years to come.[7] From the very beginning, we might say, Gramsci was characterized by opponents as insufficiently internationalist in disposition—a characterization sometimes reprised in view of Gramsci's famously granular analysis of especially nineteenth century Italian political history in his later carceral writings. In any case, it was over a year before Gramsci published again.

It is worth, however, dwelling briefly on the argument Gramsci articulates in this earliest of publications, as it maps out in significant ways the course that Gramsci was to follow in his later pre-carceral writings—albeit no longer as a defender of Mussolini, whose Fascist

[5] Gramsci 1994, 3-7, 5.
[6] Gramsci 1994, 5.
[7] See "Introduction" in Gramsci 1971, xxx. For a thorough clarification of the issues at play in interpreting Gramsci's political position relative to intervention in the First World War, see Rapone 2007, 2997. For a wholistic reconstruction of Gramsci's view of the war relative to strategic revolutionary possibilities, see Vacca 2021.

government would imprison Gramsci in 1928. Namely, Gramsci notes that the principles of a given social formation, here, the ruling or leading class, are to be worked out in accordance with the future they set themselves. Following Mussolini here, Gramsci is clear that the future the bourgeoisie sets itself "must inevitably lead to war."[8] The imperialist ambitions of the ruling class lead it not only to seek to expand territorial and political control ever outwards, but to set this expanded control as its motivating aim—as the reason to enter the war in the first place. Gramsci, again, following Mussolini, argues that Italy's ruling class should not be prevented from entering the Great War because, when these imperialist ambitions are stymied in the trenches, its failure as a ruling class will become evident. This sort of "active neutrality" amounts to the working class "forcing the class in power to assume its responsibilities, forcing it to carry its premises through to their logical conclusion, to submit to an examination of the way in which it has been preparing for the end which it claims as its own."[9] The neutrality Gramsci and Mussolini argue for is active rather than passive because it is neutrality *for the purpose of* allowing the ruling class to flounder in its wartime adventures. Gramsci's position, then, is that an Italy that enters the Great War for the purposes of fulfilling its imperialist aims is bound to fail and the PSI, as organizers of the working class, should not stand in the way of the ruling class running itself aground.

Such a failure of the ruling class to instantiate its stated aims would create an opportunity wherein the nation would be "abandoning to their fate all those institutions which are directly responsible for its present, miserable state."[10] It is precisely in the failure of the ruling class's envisioned ends to come about that Gramsci sees the opportunity for a revolutionary

[8] Gramsci 1994, 6.
[9] Ibid., 5.
[10] Ibid., 5.

displacement of that class. Any sabotage of the ruling class's efforts to embark on a wartime adventure would precisely fail to demonstrate that class's failure to the nation, because the ruling class could point to that sabotage as a reason for that failure.[11] The key moments in this early text revolve around a thinking of action in relation to the ends these actions bring about and in the realization (or lack thereof) of those ends as the very substance of a given actor's claim to legitimate leadership. Gramsci identifies the ruling class by its aims: the bourgeois ruling class has as its purpose the imperialist expansion of the Italian state. And Gramsci's "active neutrality" itself aims to allow the ruling class to demonstrate its inability to bring about its stated purpose, thus undermining it as a ruling class. While Gramsci's political writings arguably never again took the form of such an instrumentalization of international warfare for the benefit of proletariat revolutionary strategy, the question of the realization or failure of ends would figure prominently in his texts to come. Among these is his 1917 "Three Principles and Three Kinds of Political Order," to which we now turn.

Published just one month before the Russian February Revolution, *La cittá futura* was a collection of essays edited and, for the most part, authored, by Gramsci for the Piedmontese Socialist Youth Federation. *La cittá futura* contains many essays detailing themes that Gramsci would take up again and again in his later works, themes such as autonomy, the role of intellectuals in class struggle, and the importance of discipline. But, as the title of the collection reflects, *La cittá futura* is above all concerned with the future, with possibilities imagined but not yet actualized. In his eponymous afterword, Gramsci writes that the publication was intended to serve as both "momentum and reflection" [*slancio e riflessione*], a look back that would propel a

[11] "And sabotaging a machine (because absolute neutrality is nothing more than sabotage – a sabotage, apart from anything else, enthusiastically welcomed by the ruling class) certainly does not prove that the machine is not perfect, that it is no use for anything." Gramsci 1994, 7.

youthful Italian socialism forward and into the future.[12] Such an orientation is especially evident in "Three Principles and Three Kinds of Political Order." This text takes future-directed action and the motivations thereof as its subject, making it of particular interest to us here in thinking about the burial and isolation of nuclear waste—a paradigmatic instance of future-directed action if ever there was one.

Gramsci begins "Three Principles" by observing that the word "order" has a sort of "healing power" that is deployed in the name of the "preservation of political institutions."[13] Order, on Gramsci's account, becomes a byword for stability and harmony that allows the present situation to be presented as preferable to the uncertainty of change. In this way, "the mass of citizens" becomes "hesitant and fearful of the thought of radical change."[14] Change is to be feared precisely because it has become identified with disorder or, at least, with unknowability. Such a fear of change is identified by Gramsci with "common sense," one of the earliest appearances of this term that would go on to form a key nodule in Gramsci's writings. Gramsci writes "[c]ommon sense [*senso commune*], fatuous as usual, teaches that it is better to enjoy your egg today than hope for a chicken tomorrow."[15] However, appeals to order are not strictly confined to the present. The continuation of order is precisely the preservatory promise that the future need not be unknowable. The future that looms before the present turns out to always of a type. Either unknown, and so terrifying in its unknowability, or foreseeable, predictable, and ordered. As long as we can rest assured that the future will very much resemble the present, that the ostensible order of the present is maintained, then we can rest easy. This in spite of the fact that the present political order may turn out to be exploitative, damaging, or even

[12] Gramsci 1917. The translation is my own.
[13] Gramsci 1994, 19.
[14] Ibid.
[15] Ibid.

itself unstable in the way, for instance, that the Europe of World War I was subject to regular bouts of famine, death, and destruction. Even the present that led to and subsists under the conditions of the First World War, however, possesses some regularity, if not stability. The conservative appeal to order turns out to be an appeal not at all to stability but to predictability.

It is in the face of the common sense fear of change and desire for known quantities and predictable institutions that the necessity for utopian thinking arises. Gramsci writes: "A utopia envisages a future status quo which is already established and tidy, thus removing any impression of a leap into the darkness."[16] Utopian imaginings are ways of making formerly unpredictable futures into already constituted orders, thus dissipating any fear that might keep one from acting. Instead, "the future" becomes the more straightforward and solvable problem of selecting a given preferred content from a list of options. A future with greater or lesser power concentrated in the hands of workers, say. A republican future or a future of constitutional monarchy. A future where waste is buried or a future where waste is reprocessed. In every case, we see that these sorts of determinations of what the future can resemble are articulated with the essential goal of giving shape to futures that might otherwise remain indeterminate, fuzzy, or otherwise uninviting in their relative unknowability.

Importantly, such a strategy of utopian imagining is deployed not only by those who wish to inoculate the mass of citizens against a fear of change. Existing political orders may appeal to utopian visions as well, in formulations espousing the necessity of "staying the course" or insisting on the finality of a given social form—"the end of history" as a promise that tomorrow will finally resemble today. Let us pause here to note that the insistence that future generations will be capable of inheriting our waste responsibly is precisely a utopian vision in the service of

[16] Ibid., 20.

preserving the current social form. Indeed, in this instance, we see that the viability of the society that produced nuclear waste is retroactively justified precisely by appealing to the fact that future generations will be able to inherit from "us" only insofar as a minimum of stability, and so survival, of the current social form is presumed. A political order that is justified on the basis that it is stable because it is orderly, and orderly because it is stable.

Gramsci is clear that, in a certain sense, this projection of constituted futures is necessary for any action to be undertaken at all. He writes that "in order to act, man needs to be able to predict things, at least in part. It is impossible to conceive of the will being directed at something other than a concrete aim" [*Non si concepisce volontà che non sia concreta, che cioè non abbia uno scopo*].[17] Each individual's action, Gramsci argues here, depends, as its condition, on the possibility of imagining the end that that action is meant to bring about. This means that as soon as a given end becomes unimaginable, the action that would have sought to bring it about is not only abandoned, but itself becomes quite unimaginable as an action. Bellamy's translation, cited above, is perhaps a more comfortable English rendering, but Gramsci's Italian here is more literally rendered as "No will is conceived that is not concrete, that is, that does not have an aim." A will is always concrete insofar as it directs itself towards an aim. All willing is so directed, which is to say that all willing is concrete. A will with no aim is, quite simply, inconceivable. It would no longer be a will at all.

It is here that Gramsci identifies the failure of what he calls utopian social constructions. On Gramsci's account, when a future is imagined in its empirical, precise, and factual potential, this end serves to direct action right up until that particular future becomes unimaginable.

[17] Ibid. We can compare this remark to a line written just over a year later: "Will, in a Marxist sense, means consciousness of ends, which in turn implies having an exact notion of one's own power, and the means to express it in action." Gramsci 1994, 57.

Further, this envisioning of the future serves to allay fears of the unknown because the collection of factual details that make up this future provide a "neat and tidy," and so anodyne, vision of the future. But insofar as that particular articulation of the future is made up of the accumulations of particular details, the project of bringing about that future fails the instant any one of those details fails to hold. Once the future that is the concrete aim of my will to act becomes impossible, my will dissipates as well. Gramsci writes "utopian social constructions have always collapsed, precisely because they were so neat and tidy. If just one detail could be shown to be wrong, the whole edifice collapsed."[18]

Put differently, we could say that, in order to construct a vision of the future that appears to be both concrete enough to serve the role of an end toward which a will could be directed and stable enough to dispel a fear of the unknown, what has been articulated instead is an incredibly (in the sense of unbelievable) precarious vision of the future that disintegrates as soon as any of its particular details is shown to fail to hold. The young Gramsci here points out that answering questions about precisely what a future will look like will always work to undermine one's ability to relate one's actions to the bringing about of that future because such specific determinations of the future can always fail to come about. Simply put, Gramsci argues that it is a mistake to think that action ought to be undertaken by a will whose purpose is, strictly, bringing about specific states of affairs.

The first chapter of this dissertation is replete with examples of both constructions of the kind that Gramsci has in mind, and the failure of those constructions to motivate action on the part of present generations. Present generations seek to construct a future in which our responsibilities might come to an end. Thus, a future is imagined in which our inheritors receive

[18] Ibid.

our nuclear waste and take it up responsibly. But future generations might also fail to inherit sufficient information to do so. In order to maintain the viability of an imagining of the future in which the present generation's responsibility comes to an end, then, another detail must be posited, namely, that future generations will inherit sufficient information, as well. Means of communicating such information that can endure across generations are thereby devised. But these means of communication might not be legible to future generations. Means of ensuring legibility are then developed and implemented, be it the supposition of infinite translation of one language to the next, or in the construction of monuments that are taken to be sufficiently communicable phenomenologically, without a specifically linguistic component. And yet these monuments could be inherited under drastically changed representative contexts. In which case the context of reception will need to be determined in advance. And so on.

What we see expressed here is a concretization of precisely Gramsci's point. Those tasked with developing a strategy for the successful handing off of the present generation's radioactive waste understand that this vision of a future in which the present's responsibility one day comes to an end depends on an innumerable number of particular details coming to pass. And, in order to attempt to ensure that these details do come to pass, more forms, structures, and inheritances that might lock the necessary details in are imagined. And these too will need to be ensured. Such a process creates an infinite chain of futures being guaranteed by slightly antecedent futures that will, ultimately, be traceable back to present generations. And these present generations will have rid themselves of the fear of the unknown and a paralysis of action by way of guaranteeing for themselves that the future envisaged will come to pass. And so it is not so difficult to see the force behind critics of nuclear waste policy, critics like Kristin Shrader-Frechette and Peter C. van Wick, who argue that it is a question of when waste isolation might

fail rather than whether it might fail. Shrader-Frechette and van Wyck understand that the entire project of deep geological disposal rests on the promise that waste isolation can, conceivably, be maintained.[19] And, in the spirit of the young Gramsci, both authors understand that accepting that this particular factual detail *will not hold* undermines such a project in a fundamental way. Thus, Mats Andrén takes the fundamental question of nuclear waste disposal to be one of nihilism, given the apparent necessary failure of long-term plans meant to guarantee empirical states of affairs that would alleviate the present generation's responsibility.[20]

Gramsci does not, however, adopt a nihilistic response to the problem that one cannot undertake futurally oriented projects insofar as the ends of these actions are constituted by factual details that may (inevitably, on a long enough timeline) be found to no longer hold. Rather, Gramsci insists in "Three Principles" that what must be reconsidered are the sorts of ends or aims we envisage: "[T]his aim cannot be a single factual detail or series of details. It can only be an idea, or a moral principle. *The inherent defect of utopias is this: believing that a vision of the future can be a vision of factual details, whereas it can only be a vision of principles, or of juridical maxims*."[21] Principles, ideas, moral principles, these are the "only thing that can be [man's] aim; otherwise, after a first rush of enthusiasm, you will see them start drooping and fading away."[22] Gramsci's reasoning for this position, as we shall see, works out as a complicated interplay between his distancing himself from the voluntarism and actualism of Gentile, his ambivalent relation to the Italian Hegelianism of Croce, and linguistic commitments

[19] See Shrader-Frechette 1991, 328: "Government experts agree that 'there is no doubt that the repository will leak over the course of the next 10,000 years.'"; and Van Wyck 2005, 13-14: "The accident is part of the endeavor. The accident is not the empirical falsification of human endeavor, as some disaster theorists have it. […] to speak of a safety probability is to have already inscribed the probability for failure. In this sense the accident at Three Mile Island was normal."
[20] Andrén 2014, *passim*.
[21] Gramsci 1994, 20. Emphasis added.
[22] Ibid.

inherited from Bréal. Before unpacking these connections, it is worth quickly going over Gramsci's in-text justification for the move from factual detail to principle. He does so by way of a quick move towards universalisation and an appeal to that most impactful moment of societal transformation in the Western imaginary, the French Revolution of 1789.

Briefly, then: Gramsci argues, as we saw above, that, in order to act, one's will must be directed towards a concrete aim. Gramsci then adds that, just as an individual's action requires a concrete aim, a collective will would likewise require a "concrete universal aim" [*scopo universale concreto*].[23] In order for an aim to be in common and so to unite a collective, it would need to be universal. No one particular aim would function to unite a collective will because no particular aim could motivate every member of a collective to act. Collective wills have aims that are universalizable in that these aims need to be able to be taken up by any member of that collective irrespective of their particular desires. Critically, it is such a collective aim or purpose that, for Gramsci, makes that collective will concrete. This is just to say that, without such a collective, which is to say universalizable, aim or purpose, there simply is no collective will. The alternatives are not, on the one hand, a directed and purposeful collective will or, on the other, a rudderless collective will grasping about for something to direct it. Rather, there either is a collective will, concretized by its being aimed at a universalizable principle or maxim, or there are only a number of particular wills, aimed at a number of disparate particular purposes.

It is perhaps not surprising, then, that, at this juncture, Gramsci turns to the example of the French Revolution and, in particular, to the claim that "if Jean-Jacques Rousseau could see where his preachings had led, he would probably disown them."[24] For this oscillation between the private factual aims of individuals and the concrete universal aim of the collective is, of

[23] Ibid. For original Italian see Gramsci 1917.
[24] Ibid., 21.

course, at the heart of Rousseau's *Social Contract*.[25] Such an assertion about Rousseau's relative discomfort with the inheritance of his own writings contains, Gramsci asserts, "an implicit criticism of liberalism" insofar as the principles of liberalism identified with the name "Rousseau" and undertaken in and through the French Revolution have revealed themselves, historically, to fail to establish any sort of equality. The bourgeois revolution in France helped to inaugurate the existing capitalist order and so utterly failed to bring about a society of universal equality and justice as at least nominally articulated.

But Gramsci brings up the imagined disappointment of Rousseau and the evident failures of bourgeois liberalism not to perpetuate this critique of the French Revolution or even to fully endorse this implicit critique of liberalism which, in Gramsci's words, "says something fair in an unfair way."[26] Instead, Gramsci wants to insist that the utopians of the French Revolution failed, or were defeated, "then, as ever, because none of their visions was realized in all its detail" [*Gli utopisti furono sconfitti anche allora, perché nessuna delle loro particolari previsioni si realizzò*].[27] That is, the standard of failure being applied to the French Revolution is one in which the attainment of particular details of a pre-vision of the future is what is at issue. But, as Gramsci has already argued, collective actions, such as wholesale political revolution and the inauguration of a universal declaration of rights, have principles and not particular details as their ends. While it is true that "the revolutionaries of 1789 did not foresee the capitalist order which would result from their actions," what the revolutionaries were after was "to translate into practice the principles of the rights of man," and, on Gramsci's account, "the principle was

[25] Rousseau writes, for instance, in Book II, Chapter 4 of *The Social Contract*: "[…] the general will to be truly such, mut be so in its object as well as in its essence, that it must issue from all in order to apply to all, and that it loses its natural rectitude when it tends towards some individual and determinate object; for then, judging what is foreign to us, we have no true principle of equity to guide us." Rousseau 1997, 62.
[26] Gramsci 1994, 21.
[27] Ibid., 20. For original Italian see Gramsci 1917.

realized, and from this principle grew the structures and the political order that we know today."[28]

This is to say that the French Revolution, as a bourgeois revolution, succeeded in realizing universal principles, the rights of man, through the form called "bourgeois civilization," which was "the only form of civilization which could result, as the bourgeoisie was the only effective social force, the only force capable of moulding history."[29] And the particular details of this form of civilization have revealed themselves to subsequent social collectives, like the proletariat to which this form gave rise, as undoubtedly inadequate to those principles. But Gramsci insists that these inadequacies at the level of the details of the social form do not mean either that the principles of the rights of man were inadequate principles or even that these principles themselves failed to be realized in and through the French Revolution. Rather, Gramsci insists that such a charge is the result of confusing the universal character of the principles that were the aim of the revolutionaries with an understanding of that universality as absolute. Gramsci instead asserts that "[u]niversal does not mean absolute."[30] Gramsci's claim, then, is that the principles of the rights of man *were* realized, and, indeed, were realized *universally* given the social form that accomplished this feat. Historically, a universal idea, a principle, such as the rights of man, is instantiated in and through the social forces available—here bourgeois revolution. But this principle was not *absolutely* realized. Subsequent social forces are then in a position to realize that principle for themselves, which is itself evidence of precisely the universal character of those principles. The proletariat can inherit a principle insofar as it was realized by the bourgeoisie *and* it can determine that this realization is insufficient:

[28] Ibid., 20.
[29] Ibid., 20.
[30] Ibid., 21

"[the tenets of liberalism] may be universal for the bourgeoisie, but they are not universal enough for the proletariat. For the bourgeoisie, they were ideals to be aimed at, while for the proletariat they are a starting-point for further developments."[31]

The force of this argument of Gramsci's lies in its understanding that principles are realized *insofar as* they become inheritable "operative ideals," aims, or purposes, *scopi*, that can subsequently be taken up as starting points for future developments. Thus, it can be said that bourgeois society certainly fails on the level of material conditions to instantiate equity and freedom for all insofar as the concrete details of social organization following the French Revolution remain replete with social injustices and inequalities. But nonetheless, Gramsci will insist that the French Revolution successfully realized its principle universally (and did so "in practice") precisely because its principle can be taken up by future social movements. The principle of the French Revolution has been realized in history, as history. And the evidence of this is to be found in the way that the principle motivating the French Revolution has continued

[31] Ibid. This is a point worth returning to in the event of a more sustained engagement with Althusser and Balibar's reading of Gramsci in *Reading Capital* where the argument is made that Gramsci's insistence on emphasizing the 'historical' of 'historical materialism' misses what one who emphasizes 'materialism' might be able to account for, namely, a coequal stressing of historical materialism *and* dialectical materialism. What our reading of this early Gramsci helps us to better understand, in this context, is that what Althusser refers to as 'dialectical materialism' – namely, "dialectical materialism with respect to the Marxist theory of practice and their relationship, in what is commonly called 'the materialist theory of knowledge'"—is not only 'contained' in Gramsci's insistence on the historical character of 'principle' insofar as this would be historically situated and inherited, but, indeed, is constitutive of that historicism. That is, Gramsci here argues that a principle is realized in and through a given social form *as* universal but that the universal character of that realization is inherited or taken up as fundamentally inadequate in its realization by other social forms. These, in turn, begin from precisely those inadequacies in order to transform and reapply that principle in contemporary social contexts determined by the new material conditions. In this way, Gramsci argues precisely that historical materialism *is* dialectical through and through, in its application of historically concretized knowledges. Althusser's point is, of course, that Gramsci seeks to "make the theory of history and dialectical materialism coincide with *historical materialism alone*, although they form two distinct disciplines." And this point probably stands, given the gloss provided here, if one wants to insist on a disciplinary distinction between historical and dialectical materialism. However, we can see that in his understanding of inheritance as the transformation of what had been inherited as a realized universal, Gramsci concretizes (let us not say 'historicizes' here out of a desire to avoid Althusser's charge) dialectical materialism with respect to knowledge in a way that, if anything, prioritizes the dialectical character of that history, rather than subsuming materialism's dialectical to its historical dimension. See Althusser 2009. pp.132-159, and especially pp. 144-5.

to inspire revolutions and overturnings of the very bourgeois society that the French Revolution established.

It is worth noting here that the claim that the "real" value of the French Revolution is to be found in its role in constituting new social forms and not in the particular instantiation of any particular factual content can be found echoed throughout Gramsci's writings, including in his *Prison Notebooks*. There, for instance, Gramsci writes that the critique of utopian French Revolutionaries is perfectly well-founded insofar as the particular form of Jacobinism historically articulated has since become "mummified." However, for "philosophers of praxis" (Gramsci's censor-proof means of referencing Marxists, communists, and historical materialist leftisms more generally from within the walls of his prison cell) are themselves better placed to appreciate "the real and not abstract value that Jacobinism had as an element in the creation of the new French nation (that is to say as a fact of circumscribed activity in specific circumstances and not as something ideologized)" and to assert that the inheritance of the French Revolution itself is "the greatest form of 'historicism,' total liberation from any form of abstract 'ideologism,' the real conquest of the historical world, the beginnings of a new civilization."[32] We will return to Gramsci's language of "mummification" in a further section,[33] but for now let us note that the later Gramsci continues to maintain that the real value of an action is in establishing forms to be inherited and transformed, which is to say, in establishing universal principles that, while concretized in specific historical circumstances, become "real" only insofar as these principles are free from ossification and able to be taken up anew by the new civilization that they themselves inaugurate.

[32] Q16, §9, 1864; Gramsci 1971, 399.
[33] "Robert Jackson writes, in his chapter in *Revisiting Gramsci's Notebooks,* that "In each situation, Gramsci uses this language of the 'living dead' to analyse the anachronistic character of an element of the political situation." See Jackson 2019, 317.

For Gramsci, the greatest example of this during his lifetime was, of course, the Bolshevik Revolution that took place just a few weeks after the publication of *La città futura*. Indeed, in his famous pre-carceral article "The Revolution Against *Capital*," published in December 1917, months after *La città futura* and the Bolshevik Revolution, Gramsci makes the argument that the Bolsheviks' actions effectively repudiate Marxist ideology and Marxist ideologues insofar as this revolution took place without conforming to the orthodox "Marxist" insistence that a proletarian revolution must be preceded by a bourgeois revolution. In this sense, Gramsci can write that the Bolsheviks "are not 'Marxists'; they have not used the Master's works to compile a rigid doctrine, made up of dogmatic and unquestionable claims."[34] To link the argument of "Three Principles" with the analysis provided in "Revolution Against *Capital*," we could say that "Marxists" (to maintain Gramsci's scare quotes when referring to doctrinaires) were wrong on the level of "factual details" in insisting that a bourgeois revolution must precede a proletariat revolution. And history itself, here, the Bolshevik Revolution, is evidence of this error. Indeed, later, in the *Prison Notebooks*,[35] Gramsci will reprise his position from "Revolution Against *Capital*" in writing that prediction itself, as a scientific practice, is scientific only insofar as "it permits one 'abstractly' to foresee the future of society" because, following a reading of Marx's *Theses on Feuerbach*, concrete moments of future struggle are always going to be worked out as "the results of opposing forces in continuous movement which are never reducible to fixed quantities."[36] Predictions of future historical events are not to be understood in

[34] Gramsci 1994, 40.
[35] All references to Gramsci's *Prison Notebooks* follow the internationally established standard of notebook number, followed by number of note, followed by page number. This standard is based on the Einaudi critical edition of the *Quaderni del carcere*. For instance, Q11, §12, 1377 refers to Notebook 11, note 12, page 1377 of the Italian edition. When referring to Notebooks 1-8, the English translation will typically be reproduced from the English edition *Prison Notebooks* Vols I-III. Ed. and trans. Joseph A. Buttigieg. Columbia University Press 1992-2007. References to later notebooks will be supplemented by references to English anthologies when these are available.
[36] Q11, §15, 1403. Gramsci 1971, 438.

terms of the anticipation of fixed, particular quantities, because such quantities are unknowable and prediction is not an "act of knowledge." Gramsci writes that "one knows what has been and what is, not what will be, which is something 'non-existent' and therefore unknowable by definition."[37] The purpose of prediction is, therefore, not to "know" in advance what could not be known, but, just as he has it in "Three Principles," "as an abstract expression of the effort made, the practical way of creating a collective will."[38]

Gramsci can insist, then, that what the Bolsheviks *were* doing was "living out Marxist thought—the real, undying Marxist thought."[39] We will return later to Gramsci's identification of the "real" with the "undying" when we consider the ways that the later Gramsci takes up questions of sedimentation and mummification. Here, however, this "real, undying" Marxist thought, on Gramsci's account, was never concerned with "crude, economic facts" but rather with the forging of "collective will."[40] A collective will that would, as we saw above, depend on the articulation of a universal aim. And this aim is, properly, Marxist. In this way, Gramsci can argue that while Marx made predictions, the failure of these predictions to take hold in reality in their particular detail is not an indictment of Marx's analysis.[41] This is because the aims of Marx's thought, aims that themselves pick up from the articulations of universalism realized as principle in the French Revolution, are concretely realized in the movement of the Bolshevik Revolution. It is precisely by refusing to be bound by predictions of particular details and taking up history as their own that the proletariat is able to "become more and more aware of their own potential, their own capacity to assume social responsibility for themselves, to become the

[37] Ibid.
[38] Ibid.
[39] Gramsci 1994, 40.
[40] Ibid.
[41] "Marx predicted what could be predicted. He could not predict the war in Europe, or rather, he could not predict that it would last so long or have the effects that it had." Gramsci 1994, 40.

arbiters of their own destiny."[42] The Bolsheviks are the most faithful inheritors of Marx *because* the Bolshevik Revolution was a revolution against *Capital*.

2.3 History, Acting, and Anachronism

In thinking through the way that Gramsci is thinking willing, universalizability, purpose, and history, it is fruitful to bring together a few key figures taken up by Gramsci in and through these early texts. The two most significant of these are Giovanni Gentile and Benedetto Croce, towering figures in early twentieth century Italian thought. Later in this section, we will also turn to Michel Bréal, whose influence on Gramsci's thinking of language has been well argued by authors like Alessandro Carlucci and who will allow us to trace lines linking Gramsci to Saussure.[43]

It is by way of Gramsci's insistence on the historical situation of the *scopi* that are the conditions for action that Gramsci most clearly distinguishes himself from the pure action philosophy of Giovanni Gentile. Best known now for having been Mussolini's Minister of Public Education and the ghost-writer of Mussolini's *Doctrine of Fascism*, the self-professed "philosopher of fascism" was, in the early twentieth century, Italy's second most famous idealist, after Benedetto Croce. It is from Gentile that the young Gramsci takes up the language of willing and, in particular, a willing that is only evident in present action—hence the use of the term "actualism" in describing Gentile's philosophical commitments.[44] Importantly, however, this creative acting on the world was, on Gentile's account, presuppositionless or "pure" in that the

[42] Ibid, 41
[43] See Carlucci 2011 and Carclucci 2013.
[44] An early translator of Gentile adds that Gentile calls his own philosophy "actual idealism" for two reasons. Firstly, because "it is the idealism of to-day, not only in the sense that it is latest in time, the most recent and the most modern formation of the principle, but in the meaning that the history of philosophy has itself imposed this form on present thought" and, secondly, in the sense that "it is the idealist concept of the present, which is not an exclusion of times past and times future, but a comprehension of all history as present act determined by past fact, eternal becoming." See Carr 1922, xii-xiii.

present of thought constitutes the reality in that present of all its objects.[45] There simply is no history outside the present.[46] In the words of Richard Bellamy, "'Actualism,' in sum, involved a denial of history."[47] This "extreme, solipsistic and ultimately despotic version of transcendentalism" wherein Gentile claims "access to a personal Truth which he then sought to impose on a recalcitrant world" is the version of Gentile's thought most adamantly rejected by Gentile's contemporary, Croce.[48]

Croce rejected the capricious and bellicose assertion that the Truth could be brought into being simply by successfully imprinting it on a world by force of will. Croce argued instead that categories of justice and truth were no longer to be thought metaphysically but, rather, historically, which is to say, philosophy is to be thought *as* history.[49] The Crocean position is a historical idealism, however, insofar as the historicism that it advocates takes as its grounding the thought of history *in* history and not the thought of history simply as a product of a will imposing itself on a present.[50] As we saw above, Gramsci's pre-carceral "Three Principles" works out as a

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[45] An illustrative remark of Gentile's on this point is his claim in *Theoria generale dello spirito come atto puro*, translated as *The Theory of Mind as Pure Act*, in which Gentile states: "Nel mondo della natura, tutto è *per natura*; nel mondo dello spirito, nessuno e nulla è per natura; ma è tutto quello che diviene per opera sua propria." "In the world of nature all is *by nature.* In the world of mind neither person nor thing is by nature, all is what it becomes through its own work." Gentile 1922, 20.

[46] "La quale, dunque, non è realizzata quando noi istituiamo la nostra ricercar storica: anzi è la nostra vita in atto." "History, therefore, is not already realized when we set out on our historical research; it is our own life in act." Gentile 1922, 50.

[47] Bellamy 2001, 214.

[48] Ibid.

[49] "Si può dire che, con la critica delia filosofia trascendente, la filosofia stessa, nella sua autonomia, sia mòrta, perché la sua pretesa di autonomia era fondata appunto nel carattere suo di metafisica. Quella che ne ha preso il luogo, non è più filosofia, ma storia, o, che viene a dire il medesimo, filosofia in quanto storia e storia in quanto filosofia: la filosofia-storia, che ha per suo principio l'identità di universale ed individuale, d'intelletto e intuizione, e dichiara arbitrario o illegittimo ogni distacco dei due elementi, i quali realmente sono un solo." Croce 1966, 25-6. "If one can say that, with the critique of transcendental philosophy, philosophy itself, in its autonomy, is dead, it is because its pretense of autonomy was grounded precisely on the character of its metaphysics. That which has taken its place is no longer philosophy, but history or, which is to say the same thing, philosophy as history and history as philosophy: historical-philosophy, which has as its principle the identity of the universal and the individual, of the intellect and intuition, and which declared arbitrary and illegitimate any separation between these two elements, which really are a unity." Translation my own.

[50] Bellamy writes of Croce's position: ""Every person's present thinking and activity were conditioned by the past thought and action of those who had influenced the values and practices within which he or she worked and would

serious attempt to navigate between the pure voluntarism of Gentile and the idealism of Croce while retaining there the thinking of aim, of *scopo*. Gramsci is developing a thinking of history that makes sense of what is appropriate to history while taking up the aims of those who acted before, having transformed those aims through their inheritance to provide a historically situated and yet transformed purpose for which a collective will can set itself historical projects. Given the centrality of history and inheritance in "Three Principles," Bellamy's claim that the youthful Gramsci was "more influenced" by Gentile than by Croce seems, at least, an instance of over-stating the case.[51] Although one must grant that the pride of place given to the act of willing certainly demonstrates Gramsci's fealty to central features of Gentile's thought.[52]

The sense in which Gramsci attempts a reconciliation of the Gentilean and Crocean positions is evident, I think, in the way that Gramsci thinks not only the historical grounding of principle, as in Croce, or the primacy of action in concretization, as in Gentile, but in the way that these are brought together in and through the process of future social forms taking up principles. In other words, Gramsci develops what we might call a logic of inheritance. The aim of an action cannot be merely in attaining particular "factual details," since, as we saw, these multiply infinitely and can fail to hold easily. Rather, action must be directed towards the instantiation of universal principles, precisely insofar as these can be taken up by future

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in turn condition those of others as well as his or her own in the future. To this extent, all judgment was 'historical' and all history 'contemporary,' because it connected past and future by revising certain prevailing attitudes and pursuits." Bellamy 2001, 213.

[51] See Bellamy and Schecter 1993, 8-11; and Bellamy 2001, 214-215.

[52] Cf. the more explicitly Gentilean formulation of history found in the short text 'History,' published in *Avanti!* only a few months earlier, in August 1916, which ends with the following statement of purpose for understanding one's place in history, especially in terms of one's place in the metaphysical history of philosophy: "Because, though we feel the past fuelling our struggle, it is a past that we have tamed; our servant, not our master; a past which illuminates and does not overshadow us." Gramsci 1994, 14. The later Gramsci stands in stark contrast to this point. For instance, in the *Prison Notebooks*, Gramsci explicitly restates the Crocean position with the addition of a thinking of culture, a key term that increasingly occupies Gramsci as his writings matures: "Philosophy cannot be separated from the history of philosophy, nor can culture from the history of culture." Gramsci 1971, 324.

generations regardless of whether or not an action's stated factual goal has come to pass or not. Action, then, is conditioned by the possibility of its end being taken up by future generations in ways that are radically dissociable from particular contexts. What is inherited are principles that can determine action. And what determines actions can only be principles insofar as these can be inherited.

Let us recall at this point that one of the functions that the imagining of universal principles accomplishes is the constitution of a collective will. Gramsci's Rousseau-inflected interest in this question is deeply linked to his life-long occupation with the question of Italian Unification, the *Risorgimento* of the nineteenth century. Gramsci links the question of collective will, universal principle, and, finally, the question of language to the Risorgimento in a September 1917 newspaper article entitled "Socialism and Italy," published in *Il Grido del Popolo*. There, he writes: "Fifty years ago there was no such thing as an 'Italian people'—it was just a rhetorical expression. There was no social unity in Italy then; there was only a geographical unity. There were just millions of individuals scattered throughout Italian territory, each leading his own life, each rooted in his own soil, knowing nothing of Italy, speaking only his own local dialect, and believing the whole world to be circumscribed by his parish boundary."[53] The lack of social unity in Italy, a social unity that, by 1914, not only existed but, as we saw in "An Active and Functional Neutrality," was capable of being directed towards one of many potential purposes by a ruling class or oppositional social force, is intimately bound to the question of language. Before proceeding to the question of Gramsci's linguistic formation to help us better develop an understanding of the role that inheritance and universalization plays in Gramsci's thought, let us quickly mark the appearance of the Risorgimento and language in

[53] Gramsci 1994, 28.

Gramsci's early writings by looking at a well-known passage on language from his *Prison Notebooks* in order to help fill in the space between these early and later writings will allow us to organize our investigation of language in Gramsci.

Gramsci described the lack of a unified Italian society in terms of a lack of knowledge of both a unified Italy *and* a unified Italian language. In the *Prison Notebooks,* Gramsci writes that "someone who only speaks dialect, or understands the standard language incompletely, necessarily has an intuition of the world which is more or less limited and provincial, which is fossilised and anachronistic in relation to the major currents of thought which dominate world history. His interests will be limited, more or less corporate or economistic, not universal."[54] Dialect, here, is the name for a language that fails to reveal to its speaker a universalizable conception of the world, due to its geographic and temporal locality, which is to say, due to its particularity.

Gramsci will ask, in that same text, "how is it possible to consider the present, and quite specific present, with a mode of thought elaborated for a past which is often remote and superseded? When someone does this, it means that he is a walking anachronism, a fossil, and not living in the modern world, or at the least that he is strangely composite."[55] The dialect, the particular, that mode of language which, qua language, "contains the elements of a conception of the world and of a culture" here in the mode of a limited conception of the world marked by its being anachronistic. These dialects are to be marked, in Gramsci's writing, in distinction from the languages of "great cultures," which simply means cultures whose language "can translate

[54] Q11, §12, 1377; Gramsci 1971, 325.
[55] Q11, §12, 1377; Gramsci 1971, 324.

any other great culture and can be a world-wide means of expression. But a dialect cannot do this."[56]

Putting aside, for the time being, the question of which language might be elevated historically to a position wherein it is understood that it is capable of translating other cultures and could even be styled a global language and global culture,[57] let us, for the purpose of exegesis, note here that the features of such a "great" culture are its apparent universality, its ability not only to take up other cultures, but of being taken up by other cultures in turn, present and future. These cultures would be "alive," in contrast with the fossilization Gramsci names in those languages identified simply as dialects. As we saw in the earlier Gramsci, it is precisely on the level of Italy's retention of its various local dialects that Gramsci claims one can observe, historically, a lack of national cohesion and unity.

We see echoes of Gramsci's commitment to thinking life alongside the capacity to be taken up in new contexts and inflexibility or rigidity as markers of fossilization or anachronism in Gramsci's thinking of political parties from the *Prison Notebooks.* In Notebook 7, Gramsci writes:

> One of the most important questions regarding political parties is their "opportuneness" or "rightness for the times;" that is to say, the question of how they react against 'habitude' and the tendency to become mummified and anachronistic. In practical terms, political parties come into existence [as organizations] in the wake of historical events that are important for the social groups they represent but they do not always know how to adapt to new epochs or historical phases, or they are unable to develop in accordance with the

[56] Q11, §12, 1377; Gramsci 1971, 325.
[57] The question of translatability in Gramsci receives a comprehensive treatment in Boothman 2004, 247-266.

> ensemble of the relations of force [and therefore with congruous forces] in their particular country or in the international sphere. In this analysis, one must make distinctions: the social group; the mass of the party; the bureaucracy or general staff of the party. The latter is the most dangerous in terms of habitude: if it organizes itself as a separate body, compact and independent, the party will end up being anachronistic. This is what brings about the crises or parties that sometimes suddenly lose their historical social base and find the ground taken from under their feet.[58]

Again, what I wish to draw attention to here is Gramsci's consistent insistence that a failure to continue to develop historically is not only anachronism but, indeed, fossilization. Here, a political party that is "opportune" is one that is truly representative of a given social group in light of that social group's relation to the historical phase in which that group itself is formed. A political party's bureaucracy is particularly prone to separating itself from the development of the social group that the party takes itself to represent and, when it does so, it ossifies in such a way that it is no longer representative. It becomes fixed in its anachronistic determination of itself.

To return, now, to Gramsci's pre-carceral writings, we see an example of precisely the logic outlined in the above-quoted passage from the later *Prison Notebooks* in an article written for *Avanti!* in January 1917, making it approximately contemporaneous with "Three Principles." The piece was entitled "The Dead that Speaks" (*Morto che parla*) and there Gramsci, to quote Robert Jackson's apt summary, "excoriates a Torinese politiican," Donato Bachi, because he "fails to acquiesce to his new situation."[59] Gramsci writes: "A corpse circulates in civic life.

[58] Q7, §77, 910.
[59] Jackson 2019, 315-316.

Stenches of pestiferous stink reach the nostrils of those unfortunate enough to have to remain in its vicinity; but the corpse imperturbably *continues to speak and to write*."[60] Bachi is a putrid living corpse in the way that he anachronistically continues to engage with contemporary civic life despite no longer fitting those times. Anachronisms are not simply unmoored from the contemporary situation but are unmoored *and* continue to engage with that time, albeit as representatives of nothing real or living. In this sense, we agree with Jackson and Michele Ciliberto, who argue that Gramsci's use of a vocabulary of creation and decomposition wherein these two terms modulate each other without establishing themselves as mutually exclusive binaries is a "mutual reinforcing" that nonetheless is never simply resolved as a "definitive univocal synthesis."[61] Indeed, as Jackson demonstrates, Gramsci's use of the language of life to elaborate his analysis of social forms and the discourses that arise out of these forms works itself as a conception of "society as an organism with a fundamental internal antagonism" so that the decomposition of old forms is at the same time the inauguration of the new forms that take up the (now) anachronistic, that is, inappropriate forms that had once been legible, representative, or, we could say using the language of the early Gramsci, universalizable.[62]

We have seen up to this point the sense in which Gramsci develops a thinking of action as being driven by and towards concrete aims which, when undertaken collectively, must be universal principles capable of being taken up historically by successive social forces. This is just to say that collective action is motivated by the realization of principles that can be inherited. To fail to do so is to render action unthinkable, insofar as overly particular aims could not motivate action as soon as the specific details that make up an overly particular aim begin to

[60] Gramsci 1980, 681. Cited in Jackson 2019. The translation here is Jackson's.
[61] See Jackson 2019, 314; and Ciliberto 1989, 680.
[62] Jackson 2019, 314

appear to the actor as, now, impossible. And this logic of Gramsci's, we have seen, continues to work itself out throughout his writings in a variety of ways. Whether it be a thinking of language and dialect, or political representation, Gramsci demonstrates a consistent preoccupation not just with the political strategy of timeliness, but also with the necessity of establishing that which could continue to be timely. We might say that particular factual details as the motivating ends of a given particular action fail to be timely *even when they succeed at motivating short-term action* because there is nothing in those ends that would allow them to be taken up by others, in other times, when material and historical conditions have changed.

And yet, as we have seen, Gramsci maintains that these untimely representatives nonetheless continue to engage with the world; but they do so only as living corpses. We can begin to see here some of the ways in which Gramsci himself is timely in a discussion of that longest-lived of corpses that continues to irradiate outwards into the world: nuclear waste. Namely, in returning now to the question of language in Gramsci, we will find ourselves well-situated to think this logic of universalization and inheritance in relation to the structural parallels in the survival of nuclear waste, the corresponding necessity of the survival of a legible warning, and how these have been taken up as conditions for the discharge of responsibility.

2.4 "A living thing and a museum of fossils of life and civilizations"

In writing on the evolution of language and the introduction of new words, specifically in the context of the use of the term "immanence" in historical materialism, Gramsci writes: "Usually, when a new conception replaces the previous one, the previous language continues to be used but is, precisely, used metaphorically. The whole of language is a continuous process of metaphor, and the history of semantics is an aspect of the history of culture; language is at the same time a living thing and a museum of fossils of life and civilizations."[*il linguaggio è*

insieme una cosa vivente ed un museo di fossili della vita e delle civiltà passate][63] When a conception is replaced, language that fits the old conception continues to be used, but used "metaphorically." Gramsici's well-known example is that his use of the term "disaster" does not imply his belief in astrology, despite that word's etymological origin, though his use of the term *does* demonstrate that modern society is a development that follows out of astrology. That is to say that the "metaphorical" use of the term "disaster" to signify something having gone terribly wrong no longer references the stars aligning badly, as though the one who uses this expression blames the stars. The term stands as a "fossil" of a previous social formation that might have fully endorsed astrological causality. What distinguishes this term from the politician Bachi's putrid zombification seems to have more to do with the term's continued appropriateness than with the mere fact of its anachronism.[64]

Because our organizing topic of investigation here is the conception of responsibility that follows from and enables the environmental policy of long-term nuclear waste disposal by way of deep geologic burial, we will, of course, want to spend some more time with the question of how Gramsci's conceptions of prediction, utopia, and universalization work in conjunction with above-referenced arguments about the nature of language, translatability, and, especially, anachronism. These come together and impact Gramsci's more widely known contributions to cultural critique and hegemony under the heading "sedimentation." But before following through on that thread, a digression into Gramsci's linguistic training and background is warranted. This

[63] Q11, §28, 1438. Gramsci 1971, 450.
[64] And so we would want to complicate slightly the excellent reading provided by Jackson, wherein he writes that "In each situation, Gramsci uses this language of the 'living dead' to analyse the anachronistic character of an element of the political situation." It is undoubtedly the case that the language of living-death relates to anachronistic elements of political situations or, as Jackson writes, of political situations as a whole. But whereas some fossils are able to be taken up and used as starting points for further developments that would be appropriate to a situation, those zombies that luxuriate in their rigidity and lack of grounding are to be critiqued up until such critique can liberate the historical materialist thinker from illusions wherein the universal is thought as something fixed in its content. See Jackson 2019, 316.

is necessary not only because a more complete understanding of Gramsci's understanding of then-contemporary linguistics will enable us more accurately to parse out what is at issue in thinking sedimentation, but also because the excellent scholarship by Alessandro Carlucci will allow us to think Gramsci's linguistics in proximity to Saussure.

Gramsci's intellectual formation was, as Alessandro Carlucci demonstrates in *Gramsci and Language*, in large part overseen by and developed in contact with figures concerned with academic linguistics and especially with the question of Italian dialect.[65] These include the priest Michele Licheri, based out of Ghilarza near Gramsci's birthplace of Ales, Sardinia, who harbored an interest in regional dialects and folklore, Gramsci's high school teachers Raffa Garzia and Francesco Ribezzo, who studied in Sardinian languages and comparative Aryo-European linguistics, respectively, and, most significantly, Matteo Bartoli, who taught glottology at the University of Turin when Gramsci studied there.[66] Indeed, before leaving academic life to focus on journalism and party politics, Gramsci was expected to complete a thesis on the history of languages for Bartoli. It is by way of Bartoli's instruction and Gramsci's exposure to the work of Michel Bréal—Saussure had been a student and colleague of Bréal's—through Bartoli that we can begin to see "echoes," to use Carlucci's expression, of the thought of Saussure in Gramsci's work. Nowhere are these echoes more readily apparent than in Gramsci's notes on metaphor.

> In Notebook 7 of Gramsci's *Prison Notebooks*, Gramsci writes the following:
>
> All language is metaphor, and it is metaphorical in two senses: it is a metaphor of the "thing" or "material and sensible object" referred to, and it is a metaphor of the ideological meanings attached to words in the preceding periods of

[65] See Carlucci 2013, especially Chapter 2, 'Influences and Differences: The Formation of Gramsci's Views' 67-145.
[66] Ibid., 67-68.

> civilization. (A treatise on semantics – for ex., Michel Bréal's – can provide a catalog of the semantic mutations of different words.[67]

This point is taken up again in Notebook 11 just a few notes prior to the above quoted passage, wherein Gramsci writes:

> Language, moreover, is always metaphorical. If perhaps it cannot quite be said that all discourse [*discorso*] is metaphorical in respect of the thing or material and sensible object referred to (or the abstract concept) so as not to widen the concept of metaphor excessively, it can however be said that present language is metaphorical with respect to meanings and the ideological content which the words used had in preceding periods of civilisation. [emphasis added][68]

Language is always metaphorical, even if Gramsci here hedges his bets by almost tactically adding that perhaps this could not be said of all discourse. And present language is metaphorical insofar as it contains words, expressions, and idioms whose meaning is no longer the originally intended referent of those words, expressions, and idioms. This way of recognizing the metaphoric character of inherited languages through a "critical and historicist conception of the phenomenon of language" allows Gramsci to remain wary of a handful of common errors that might otherwise plague linguistic analysis.[69] Among these are an aesthetic error that arises when one thinks that "certain expressions as opposed to others are 'beautiful' in themselves in that they are crystallised metaphors," which is to say, the error of aestheticizing a retrofitted fixity of language as if a beautiful expressions tapped into "God knows what abstract artistic virtues and essentiality" of that expression.[70] He also names the almost reverse error, namely, "an arbitrary

[67] Q7, §36, 886.
[68] Q11, §24, 1427. Gramsci 1971, 450.
[69] Q11, §24, 1427. Gramsci 1971, 451.
[70] Ibid.

trend towards neologism," by which, in an effort to rid ourselves of the fossils of past meaning and reference, new terms are invented that would be "pure" or "mathematical."[71] Both of these errors are, effectively, mirror-image conclusions drawn from "a practical error which has many adherents," namely, believing in "the utopia of fixed and universal languages."[72]

Carlucci argues that, at this moment, Gramsci definitively moves beyond Bréal's conception of sense as that which arises out of the more or less improvised but historically enduring confluence of terms relating to one another and, rather, towards a position that is properly Saussurian in its synchronic intuitions.[73] Namely, Gramsci is able to abandon an insistence that the "correct" meaning for a word or expression is to be found in tracing that word or expression's occurrence back through previous recorded uses and then compare that historical meaning to the use that the term finds itself expressing at the present. Rather, the historical dimension of a word or expression's existence situates that word or expression in a history, and this history reveals itself to us in and through the use of that word or expression, though its history is not determinative of its meaning. This is because such a word or expression is not inherited "purely," that is, without having been changed by the process of its coming to be used in the present. Thus, Gramsci can argue that the term "immanence" acquires new meaning in historical materialism such that "it is probable that for many people the term 'immanence' is known, understood, and used for the first time only in the new 'metaphorical' sense given to it by the philosophy of praxis."[74]

Importantly, the variety of valences that a given word or expression acquires in the present in and through its having been deposited in that present by a history that at once shapes

[71] Ibid.
[72] Ibid.
[73] Carlucci 2013, 76-77.
[74] Q11, §24, 1428, Gramsci 1971, 452.

the reception of that word without establishing itself as a "pure" or "true" coexist in the present in significant ways. Indeed, Gramsci notes that, in this sense, language itself is less a unified fact of the matter for the present as it is "in reality a multiplicity of facts more or less organically coherent and co-ordinated."[75] Indeed, he continues, "at the limit it could be said that every speaking being has a personal language of his own."[76] What unifies these various "strata" of meaning is nothing other than culture itself, which we might tautologize here by describing simply as the name for that unification of various strata of meaning. Derek Boothman links this view of disjointed but contemporaneous meanings running up against each other in culture to Gramsci's thinking of ideologies more broadly, arguing that such a model of disjointed conceptions of the world presents important similarities to Gramsci's thinking on language and ideology.[77]

Boothman makes the important point that Gramsci's understanding of ideology does not prioritize a thinking of "false consciousness" in the way that has become typical since Marx and Engel's *German Ideology* became widely available. Indeed, Boothman follows Giudo Liguori in asserting the importance of remembering that Gramsci was in prison before even early incomplete manuscripts of this text became available, so that "while Gramsci often uses 'ideology' in a negative sense, the 'false consciousness' concept is, at most, in the background of the *Notebooks*."[78] Gramsci—and this is consistent with the account provided above—simply does not assert the truth of a given set of meanings that would be capable of issuing comparative corrections to given meanings or ensembles of meaning. Rather, social forms and the individuals that collectively make up these forms produce and reproduce a multiplicity of meanings that are

[75] Q10, §44, 1330, Gramsci 1971, 349.
[76] Ibid.
[77] See Boothman 2019
[78] Boothman 2019, 67. See also Liguori 2004, 132.

only uncomfortably brought together by a culture and, occasionally, are required to struggle against each other to affirm a given prevalence.[79] But while certain conceptions of the world, reflected in language and united without every being entirely unified in culture, may become dominant, language never, for Gramsci, establishes itself at the level of "purely" relating to a given referent or, without complication, communicating meaning univocally. The strata that constitute language are features of language's metaphoric productive structure.

Language, then, is metaphorical insofar as it is inherited. That is to say that words or expressions in language not only "remain" comprehensible but are always capable of producing different meanings and senses when they arrive in different contexts or social forms. What remains interesting on this point for our purposes is Gramsci's rejection of the utopia of fixed or universal languages, insofar as the term "universal" here seems to be used as a synonym for "fixed." Recall that, in his *Prison Notebooks,* we saw that Gramsci argues that ignoring the metaphoric character of language leads to errors like a belief in "the utopia of fixed and universal languages."[80]

As we saw earlier, Gramsci in "Three Principles and Three Kinds of Political Order" makes the point quite explicitly that what is universal in principles utilized as *scopi* for action is their being realized *as* universal for one social form before being taken up as a starting point for actions of later social forms that recognize the inadequacy in that principle's universal realization. Here I think it is worth making the textual point that Gramsci is thinking the valence of universality differently in these reflections on language in the *Prison Notebooks* than it was

[79] As Boothman goes on to argue, this resembles the claims articulated in the *German Ideology* and also provide an important background to Gramsci's celebrated articulation of the concept of hegemony, in which competing conceptions of the world are subsumed under the ruling ideology that has been able, to reprise terms from this chapter, to best assert its timeliness.
[80] Q11, §24, 1427. Gramsci 1971, 451.

being used in the pre-carceral "Three Principles." In those early writings, Gramsci, as we saw, insisted that principles for collective action were universal precisely in the sense that they could be taken up again by others, whether this be others acting together as a collective will or subsequent others for whom that *scopo* could act as a starting point for further developments. That is, these principles are realized universally *only insofar as they are not fixed*. Similarly, language is only erroneously understood as universal and fixed insofar as that understanding insists on the continued validity of meanings and conceptions of the world that have become anachronistic. We will see in the following chapter how these two senses of universality work themselves in the thinking of inheritance and reception in the work of Jacques Derrida half a century later. For now, let us return to the problems flagged in the previous chapter to work out what insights Gramsci allows us in thinking long term nuclear waste disposal and responsibility.

2.5 Centers of Irradiation: Gramsci and Nuclear Warnings

Let us very briefly re-situate ourselves in the problematic that characterizes nuclear waste deep geological disposal. The use of nuclear energy to meet the energy demands of the present has as one of its effects the production of extremely long-lasting and harmful radioactive waste. This waste must be isolated from contact with organic life for, according to the EPA, a minimum of ten thousand years. Given the extended half-lives of some of the waste materials produced, this ten-thousand-year timeline is, in fact, wholly inadequate. Containment breach due to material insufficiencies is, simultaneously, more or less certain to take place at some point in the tens of thousands of years required to isolate this waste safely. But this is not the only significant risk. Rather, as think-tanks like the EPA's Human Interference Task Force worry, the successors to this generation are at least potentially capable of interrupting a hitherto successful material isolation of radioactive wastes. As such, along with the waste, information must be

communicated to future generations that would be sufficient to, in the words of Stewart and Stewart, "give succeeding generations a real choice and the opportunity to make their own decisions, while not imposing a burden that those future generations may not be able to manage."[81]

Already we begin to see the relevance of our reconstruction of Gramsci's thinking of principle, inheritance, language, metaphor, and action. What the architects of this deep geological nuclear waste disposal strategy affirm is the need to, precisely, establish a potential future in which future generations might be able to adequately or responsibly handle the waste that the present generation has both inherited and produced. And because the conception of responsibility that is motivating the present generation to act is one that understands itself as conditioned by the possibility of future generations taking that waste up in their own name, which is to say, here, possessed of sufficient information, then the responsibility of the present is conditioned on the possibility of communicating across generations in such a way that necessary information remains legible. And this, in the name of guaranteeing the autonomy (and responsibility) of future generations for this waste.

As we briefly indicated above, Gramsci, especially the young Gramsci of "Three Principles," gives us very clear reasons to be sceptical of the possibility of accomplishing these goals when they are articulated as establishing specific factual details for the future. That the waste isolation site in Maxey Flats, Yucca Mountain, or Carlsbad, New Mexico's WIPP, will remain intact over ten thousand years or more is one such factual detail. And if we, this present generation, move to act collectively and into the future with the understanding that our actions today are worth undertaking if and only if such a future will be brought about by our actions,

[81] Stewart and Stewart 2011, 12.

then, for instance, learning that predictions regarding the isolation of low-level waste at the Maxey Flats site were wrong by orders of magnitude might substantially undermine our motivation to act at all. Recall that, there, instead of moving half an inch in twenty-four thousand years the waste moved ten miles off-site in less than 10 years. [82]

Or, on the level of language, if we understood that our responsibility towards future generations could be discharged only on the condition that those future generations be able to read our warnings and instructions carefully, then our own present society's fearless delving into poorly understood archaeological sites centuries before lost languages could begin to be deciphered might impress upon us the futility of such efforts. As Gramsci has reminded us, prediction is "not an act of knowledge." [83] And this is a problem if epistemological adequacy is the lens through which future-oriented responsibility is being determined. Defeatism, or even nihilism, is a by-product of the unfortunate fact that particular ends cannot be guaranteed to result from our actions.

What a "redundant messaging" strategy, that is, a strategy wherein multiple mediums, levels of information, and locations are deployed in order to increase the chance that some form of our warning reach future others, illustrates for us is the attempt to think around the problem of frustrated factual details by multiplying those details. Hence the impulse to provide more messages, messages explaining those messages, sites conditioning the reception of the meta-message, and so on. This redundancy amounts to the infinite multiplication of particular details. And yet no number of factual details will prove to be enough. Any vision of the future dependent on the prediction of concrete, factual details will always be at risk of failing to come about. If we understand ourselves to *have been* responsible to future generations *on the condition* that a

[82] Shrader Frechette 1991, 328.
[83] Q11, §15, 1403. Gramsci 1971, 438.

society capable of reading and understanding our warnings emerge, and that such a society then do precisely what we project them doing with our waste, we will have turned out to be irresponsible when (and surely this is a question of "when" and not "if") the future turns out differently than we imagined it. And, indeed, even the comforting notion that overlapping generations will ease the transmission of information from one generation to the next turns on the equally contingent factual detail that such continuity will be preserved.

Now, Gramsci has, fortunately for us, mapped out an alternative to envisioning futures as resembling given states of affairs. As we have seen, it is by acting collectively with the purpose of realizing principles that the unknowability of the future can be taken up productively rather than presenting itself as an obstacle. And discourses surrounding nuclear waste disposal seem to understand this point perfectly well. Outside of the ahistorical scientism of a great number of contributors to this intergenerational endeavour, we see an insistence that what motivates present action is not *only* discharging the present's responsibility to future generations but, in and through this same movement, guaranteeing the autonomy of future generations. The trick, as Gramsci has helped us to see already, is to do this in a way that is not directly contingent on attaining specific, foreseeable, factual details. Hence the conception of inheritance and, especially, here, inheritance of meanings and a conception of the world, cannot be one that is based on a thinking of language as fixed *and therefore* universal. Rather, the utopianism required to think inheriting toxic waste responsibly will need to orient itself as a utopianism of principles undergirded by a conception of language that asserts language's fundamentally historical, which is to say metaphorical, character.

Immediately, though, we readers understand this is inadequate to the task at hand. There is no room for new meanings to arise, for language to shift to reflect new social forms when the

stakes are established in the present to reflect the material dangers of nuclear waste. Indeed, it is the *insistence* of nuclear waste on its own form that has presented the most significant hurdle to our efforts to thinking it responsibly from the very beginning. Recall that nuclear waste is harmful and it expresses its toxicity in and through its continued radiation out into the world. Insofar as this waste continues to interact with the world, it does so only ever as itself. It is precisely because this waste is both inflexible and long-lived that it must be isolated and inherited in inflexible and long-lived structures and accompanied by inflexible and long-lived messages. The existence and continued production of nuclear waste is not only justified by the hope that such an inheritance could be determined in its form in advance, it is also an endorsement of a certain view of inheritance as fixed and the material threat that this view must continue to win out over other conceptions of the world.

As such, nuclear waste sites are designed explicitly to function, in Gramsci's language, as nothing less than repositories of the living dead. The waste whose continued life is its slow decay and reintegration with the world that surrounds it sloughs along with a site and a warning that mimic its form. And even the principles that the present generation endorses as *scopi* for its collective action, for example, the full autonomy of future generations, begins to apply itself as a universal principle realized *once and for all* rather than inheritable as inadequate.

Gramsci wrote that ideas and opinions, expressions of a culture, "are not spontaneously 'born' in each individual brain: they have had a centre of formation, of irradiation, of dissemination, of persuasion—a group of men, or a single individual even, which has developed them and presented them in the political form of current reality."[84] No more apt word could be available to us, today, than "irradiation." The waste repository is a site that is selected to exist as

[84] Q13, §30, 1625. Gramsci 1971, 192.

a perpetual site of irradiation of a certain form of current reality in and through the operation of its culturally located attempts at infinitely repeatable communication with future generations, backed by the threat of harm should that ideal irradiation ever falter. Long after the group of actors that has established the site have dissolved into dust, the site will continue its irradiation. It has been designed explicitly to continue its work of determining standards of legibility and language, but also of responsibility and autonomy. Thus, allowing the responsibility of the individual—the individual actor or the discrete generation, whatever that might turn out to mean—to come to an end.

In other words, the form of universality that is asserted as a condition for the responsible reception of nuclear waste is a fixed and repeatable—indeed, it is fixed in being repeated—universality that asserts the social form, the conditions of production, and the culture as a (unified) whole of the present *as* universal. To deploy, late in this chapter, a final Gramscian concept: the nuclear waste repository understands itself in our culture as a "common sense" solution. The waste exists. It must be isolated. Therefore, a site must be constructed. And the site must be maintained. And so future societies will be established that continue, in perpetuity, to resemble present societies to the extent that they would be able inheritors of the present's remains. What is being established in advance, then, is precisely common sense. Or rather, what is being established is what could count as common sense. In Notebook 1, Gramsci writes the following on the subject of common sense:

> Every social stratum has its own "common sense" which is ultimately the most widespread conception of life and morals. Every philosophical current leaves a sedimentation of "common sense:" this is the document of its historical reality. Common sense is not something rigid and static; rather, it changes continuously,

> enriched by scientific notions and philosophical opinions which have entered into common usage. "Common sense" is the folklore of "philosophy" and stands midway between real "folklore" (that is, as it is understood) and the philosophy, the science, the economics of the scholars. "Common sense" creates the folklore of the future, that is a more or less rigidified phase of a certain time and place. It will be necessary to establish these concepts firmly by thinking them through in depth.[85]

The sedimentation left behind by a nuclear waste repository is, of course, the repository itself, and as a project it explicitly seeks to create the folklore of the future in order to continuously justify its own production. In this sense, then, the repository is, by way of being the most final expression of common sense, the end of common sense. Its irradiation is total and, only thus, responsible. If there is a principle being asserted by the present in the establishment of a nuclear waste repository, in the continued expansion of nuclear energy so that sites like these become more necessary, it is not a principle of autonomy for the future. Rather, it is a principle for the perpetual domination of the future by the present. Indeed, it is domination by a very specific culture from within the present that understands the future as a repository capable of absorbing the present intact and without loss.

[85] Q1, §65, 76.

3. Derrida – Iterability and Biodegradability

"The concept of responsibility has no sense at all outside of an experience of inheritance."
Jacques Derrida, *For What Tomorrow*[1]

"One does not exhume just anything. And one transforms while exhuming."
Jacques Derrida, "Biodegradables: Seven Diary Fragments"[2]

3.1 The Possibility of Repeating

The story we have been following so far is one of survival. The toxic waste produced by the use of nuclear energy will survive those producing it—its half-life is too long. As such, a system for isolating this waste from those it would harm both today and into the unimaginable future must also survive. The survival of this system of isolation depends, in turn, on an inherited understanding of the waste as well as of the system of isolation. Such an understanding's ability to itself survive is conditioned on repositories of that knowledge mimicking the survival of the waste, or the waste repository. That is to say, the survival of the entirety of the apparatus that has lurched to life in, through, and because of the existence of the waste itself.

And all this in the service of, as it turns out, drawing limits and boundaries around responsibility for that waste. The present generation would like to see its responsibility for the waste it has benefitted from come to an end. The present producers of this waste would like to create a future that has the capacity or ability to take up this waste in their own name. According to such a logic of inheritance, the future might absolve the present—its past—in and through having no claim of irresponsibility against it. Present generations of producers seek to justify

[1] Derrida and Roudinesco 2004, 5
[2] Derrida 1989, 821.

their actions by creating a future that takes the place of the present in the way that the present understands as necessary.

Our reading of Antonio Gramsci in the previous chapter has allowed us to see the sense in which hinging an imagining of the future on the realization of particular empirical circumstances is doomed to failure. Not only in the sense that such a specific conceptualization of the future is unlikely to attain, given the numerous contingencies that make up the empirical circumstances of an era, but, more importantly, in the sense of allowing an imagining of the future to motivate action on behalf of those here, now, in the present. We saw that in the case of principles and language alike, survival was instead to be thought in a given thing—a principle, a word, a program—being taken up and transformed. Transformed not in the sense of being made unrecognizable, but in being made applicable, anew, to the historical circumstances in which that being taken up takes place. A principle, then, is not universal for Gramsci insofar as it univocally insists on its own content, but only insofar as it is itself capable of alteration when it is inherited. Indeed, this reception into a new context by way of an alteration necessitated and engendered by that context is really what we mean here by "inheritance."

In the pages ahead, we will turn to the work of Jacques Derrida to continue this line of argumentation and find ever more necessary ways of applying such a thinking of inheritance to the discourse surrounding "responsible" nuclear waste policy. We will seek to continue to think survival and inheritance not in terms of inflexible repetition but in terms of what Derrida calls, in certain texts from his authorial life, iterability. By this term we mean a survival that does not depend on a "constraining context" that would limit, in advance, a strict set of meanings for a

thing that survives.[3] Rather, it is precisely the structural possibility of breaking with any given context and thereby engendering an infinity of new contexts that marks survival.

Already, we see a striking resonance with much of what Gramsci described. For a word, a language, a turn of phrase, or even a principle or experience in general[4] to survive consists precisely in its continuing to attain in new contexts. The following pages will articulate these similarities by paying close attention to iterability as it is worked out from the context of linguistic utterances in Derrida's work from as early as *Margins of Philosophy*, originally published in 1972, through to 1989's "Biodegradables: Seven Diary Fragments." This latter text will, helpfully, resituate us in the thematic of nuclear waste, as it represents not only one of Derrida's most striking engagements with the question of survival and iterability in writing, but also contains Derrida's most explicit gestures towards questions of ecology and nuclear waste in particular. We will, thereby, seek to introduce Derrida's contributions to our present concerns with our feet still firmly planted in the worlds of nuclear waste policy and Gramsci's thinking of survival, living-death, and linguistics. In the fourth and final chapter, we will turn our attention to the more overtly political side of Derrida's writings on futurity to complicate the reading of Gramsci offered so far and direct our reading of nuclear waste policy onto ground that is, I hope, both appropriately critical and generative.

What, then, does Derrida have to say about what is at stake is rooting a conception of responsibility in a practice of handing down meaningful information to inheritors—say, information about the content of a nuclear waste repository and instructions concerning how best to handle it? As it turns out, a great deal. His well-known lecture-turned-essay "Signature Event

[3] Derrida 1982, 320.
[4] Let us note here that Derrida writes that iterability in the sense of the possibility of breaking with any particular context (though not, and we shall return to this point, to the extent where there would be *no* context) is a "law" that can be extended to "'experience' in general". See Derrida 1971, 378; Derrida 1982, 318).

Context" deals specifically with communication, the difficulties that run through this concept, and the polysemic meanings that arise not only from the term "communication" itself, but from communications in general. "Signature Event Context," then, is an opportune place from which we may begin to parse out what Derrida's thinking contributes to the discourse on the inheritance of texts, principles, and waste that we have been engaging with so far.

Derrida begins "Signature Event Context" by noting, simply, that the word "communication" itself is already, from the moment of its utterance or its being read, caught up in the problem of polysemy and the problem of dissemination. There is an issue in the way that a term like "communication" can both be taken up and understood in a variety of ways—its meanings are not univocal—and yet the word communication can spread and be understood beyond the strict confines of the time and space of its first being communicated. It is both resilient, in a sense, and yet open to a great number of variations. Like all words and like all communication.

Derrida recognizes that navigating this ambiguity is typically understood to come down to the delimiting of seemingly infinite possible meanings by this thing called "context." The set of circumstances surrounding any given enunciation helps us to narrow down what a given word, sentence, or utterance could communicate. Context can be remarkably informative, even when the word whose meaning is in question is one that we may never have encountered in a previous context. We can think of how teachers or parents encourage us to use "context clues" to work out what a new word means. Some but not all of the particularities of that context will be familiar, and they will come together to form a recognizable framework, even when arranged in a novel way, that can set the boundaries around the new word and help us to grok it.

It will be insufficient, however, to make the claim that the meaning of any given word or communication is simply or fully determined by context. For one thing, context itself cannot be absolutely established and determined. Indeed, Derrida will go so far as to question whether a "rigorous and scientific concept of *context*" exists at all or if, perhaps, the "notion of context" in fact only conceals "behind a certain confusion, very determined philosophical presuppositions."[5] Indeed, Derrida's most general point, he continues, is to demonstrate that no context can be entirely or absolutely determined, which would be to say that the manner in which a context is in turn determining can never be definitively worked out, once and for all. And so the very concept of "context" would need to be further investigated and extended, with the caveat that further investigation will not result in the seizure, one day, of a finally determined and absolutely delimited concept of "context." Rather, context and, thereby, the possibility of a communication undergirded by this context would be generalized so as to apply more broadly than the narrow confines of graphic writing. Hence Derrida's claim later in this same text that he would extend the laws he is identifying in communicability and writing to "all 'experience' in general."[6] Indeed, of his famous phrase "*il n y a pas de hors-texts,*" translated as "there is nothing outside the text,"[7] Derrida will later remark that this "means nothing else: there is nothing outside context."[8] There is no meaning that could insist on itself and be understood fully through its self-determining force and without reference to what would seem to be outside of it.

Because these contexts that would be determinative are not themselves fully determinable at the moment where that determination would take place or at any subsequent moment, we can begin to see the reasons Derrida would reject an understanding of communicability founded on

[5] Derrida 1982, 310
[6] Ibid., 318.
[7] Derrida1976, 163
[8] Derrida 1988, 136

the hope that the so-called "complete" or meaning intended by any given author or speaker could be fully determined by that author or speaker at the moment they produce any sort of communicable utterance or writing. The context that would determine meaning at the moment of production is itself not ever fully determinable. And, moreover, the production of a communication changes the context of that production the moment it is produced. Which is to say that even the imagined possibility of reproducing the context in which a meaning is produced is belied the moment that meaning is produced.

Similarly, and for related reasons, Derrida would reject an understanding of communicability that would claim that the meaning of a given writing or utterance could be fully or completely taken up by the one who encounters that writing or utterance later, since the context in which that writing or utterance will be encountered is not itself fully determinable either. Finally, Derrida also gives us good reason to be highly suspicious of those frameworks that would understand communication as a taking up by the one who encounters a given writing or utterance that would perfectly preserve the meaning of that writing or utterance at the moment of its production, since the context at the moment of production and the context and the moment of reception are both going to differ in important respects and will both be incomplete. There would be no original, full, determined context to refer back to, no fully determined context in which that referral could take place, and so no hope of appealing to a perfect continuity of meaning between these two points in time.

To restate this point more simply: because context is understood as importantly determinative of meaning, and because context itself is never fully determined, an utterance or writing's meaning is neither complete at the moment it is first produced or at any moment of its reception. Such an understanding has serious effects on the thinking of origin and of originary

meaning. What would it mean to refer to a first instance when that first instance is itself incomplete in its determination? And what would it mean to evaluate an understanding by comparing it to the fantasy of an original meaning when there is no first instance as such to refer back to?

It is a simple thing to point out that the context in which future persons will encounter a message will be different than the context in which that message is written. Indeed, it is by recognizing this fact that the Human Interference Task Force and other regulatory bodies have determined the necessity of, to a certain extent, determining the context of the reception of these messages left behind in advance. The hope of these writers is that if the context of reception can be controlled it would become more likely that the authors' intended meaning is received. In this sense, we see efforts to control the context of reception in order to account for the possibility that radical changes in context might render these messages illegible. And because the authors of this message, members of the present generation, will not be present forever, it is, apparently, all the more important that those things which can be made both enduring and determinative be produced so as to minimize chances at misunderstandings who consequences could be fatal to our descendants. This is to say that, in a sense, the architects of the waste repository and its accompanying communications could be described as very astute readers of Derrida, insofar as they are entirely willing to admit to the fundamental role that context, social culture, material conditions of encounter, inherited bodies of knowledge, etc., play in a given meaning being legible at all. However, they do so by insisting, thereby, on controlling those variables to the greatest degree possible today so as to then try to ensure that the *correct* meaning—which is to say the meaning intended by the authors—is derived by future generations.

Derrida, again, can help us to explain what is going on when such a strategy is undertaken. Namely, the presupposition here is that the authors of these messages are running into a problem caused by the understanding that they will not be present in the future. Today, experts exist who can clarify what is meant and who could correct on critical misunderstandings. This is to say that there is an underlying assumption that the absence of the author engenders the possibility of misunderstanding but that presence bypasses these complications by virtue of its immediacy. The comparison between presence and absence in communication is most often articulated as the contrast between speech and writing, respectively, and it is in this mode that Derrida works through this opposition.

Speech, we might think, is less susceptible to misunderstanding than writing because it is not clear that the necessary difference in contexts between the producer of a communication and the recipient of that communication holds when a speaker communicates to a listener—be they in the same room, connected by a more or less instantaneous online call, or even mediated through a translator. When one speaks there is not only enunciation and more or less direct reception, there is also the opportunity for the listener to respond in turn, to ask for clarification, and to further delimit the bounds of the context in which these communicators are sharing meaning. In this way, speech is thought as responsive in a way that writing simply cannot be. As you read this, I am not there with you to clarify what is on the page. Such a clarification would need to wait for me to be present—in person, as we say, or perhaps through telecommunication.

Such a story is at the heart of Plato's *Phaedrus*, which Derrida famously analyzes in "Plato's Pharmacy" in 1972's *La Dissemination*. In *Phaedrus*, Socrates argues that, just as a painting only imitates living beings, written words merely appear to possess the life of written

speech. Writing stands in solemn silence before any questioning.[9] Written words are, Socrates claims here, unresponsive in an important sense that would distinguish the author from their output. An author can be present when their written work is read, and then could expand on what they have written, as during an academic paper, where the author reads a text prepared in advance and then responds to questions in speech, supplementing the writing. But if the author is not present, the reader would instead have to uncover more context. These could be additional texts written by the author, fragments of speech which may be more or less applicable, interviews, etc. Or, and this would, for Socrates, be best, one could find a teacher to speak to and who could listen to your questions so that a meaning, if not the meaning of the text itself, could be worked out responsively and responsibly. In all cases, the view is that the written text, in its silence and irresponsiveness, is thereby irresponsible. The written text generates orphaned words that are, at best, reminders of what came to be known through more immediate contact.

What I am arguing here is that the architects of a so-called responsible nuclear waste policy depend, in no small part, on this view of the written work they will leave behind. These policy-makers understand that a long-term waste repository will stand silent for 10,000 years or more, ideally. These markers are designed to endure long past the biological life of any of those who had a hand in designing or constructing them. Our inheritors are *meant* to discover these messages and these structures and succeed in parsing the correct meaning in our absence. And so additional measures are required to explain the repository. But because these too must be interpretable beyond the non-presence of *their* authors, further supplements are required. And so on. And this in an effort to make these inherited traces as responsive as responsibility would require. Because the responsibility of the present generation is understood as being met if and

[9] *Phaedrus*, 275d

only if these messages still communicate *in spite* of the absence of the authors, determinative contexts must limit the possibilities for misunderstanding in advance.

Derrida's work in "Plato's Pharmacy," however, gives us good reason to be sceptical of such a logic by undermining the privileged place occupied by speech as opposed to writing. If writing is deficient, it is deficient with respect to speech. And if written remainders that serve as warnings are to be supplemented—if the context in which these reminders is, one day, to be encountered is to be elaborated in recognition of this deficiency—it is in the name of having this high-stakes writing more closely resemble the sort of speech which can answer questions. We could characterize the project of the Human Interference Task Force as an attempt to make the repository speak and so survive. Such a view of responsibility would be troubled by an account of speech and writing that upsets the privilege that speech holds, given that this privilege is itself the standard against which responsibility is being measured. And yet, as we will now see, Derrida's project in "Plato's Pharmacy" and "Signature Event Context" lies precisely in undermining this privileging of speech.

3.2 Responsible Writing

Derrida's critique of the inherited prioritization of speech over writing on the basis of a privileging of absence over presence is well known and has been taken up by authors of considerable skill and subtlety over the past fifty years or so. As such, the goal in these pages is not to relegislate those readings. Rather, we will simply be working through some sections of "Plato's Pharmacy" and "Signature Event Context" that demonstrate Derrida's undermining of the speech/writing dichotomy in order to emphasize the role of responsibility—the capacity to respond—that operates from within the classical prioritization of speech over writing. In this way, the following section will better be able to draw out the connections made in 1989's

"Biodegradables: Seven Diary Fragments" between the survival of written texts read in contexts which differ from the context of their production and responsibility in a more explicitly normative mode. Responsibility can be a tricky concept to pin down. This section's contention is simply that the responsiveness of a speaker versus the ostensible silence of the text allows us to see an important sense in which Derrida's *oeuvre* opens possibilities for a certain thinking of responsibility.

Neither "Plato's Pharmacy" nor "Signature Event Context," it should be said, represent the earliest moment of Derrida's investigation of speech and writing. His 1967 texts *Of Grammatology*, *Writing and Difference*, and *Voice and Phenomena* each trace, differently, the problematic of these distinctions and their prioritization in the history of philosophy. If "Plato's Pharmacy" is to be the text through which our overview of these movements begins, it is because, in the words of Peggy Kamuf, that text is itself "the text that most proximately pursues Derrida's grammatological concerns in the three earlier texts."[10] At the same time that this text represents a pursual of similar questions, however, it is also a "new adventure" which "bids to raise the stakes of philosophical discourse."[11] "Plato's Pharmacy" is at once a moment of clear continuity with Derrida's earlier texts and an attenuation.

If the goal of "Plato's Pharmacy" is to question the inherited priority of speech over writing, it is, however, not in order to establish a new conceptual order in which writing would be granted privilege over speech in turn. Rather, in the words of translator Barbara Johnson, Derrida "attempts to show that the very possibility of opposing the two terms on the basis of presence vs. absence or immediacy vs. representation is an illusion, since speech is *already*

[10] Kamuf 2014, 194.
[11] Ibid.

structured by difference and distance as much of writing is."[12] In other words, the project here is one of generalizing the structure that conditions writing to extend to speech as well. This would entail that the problems that appeared above as specific to the long-term transmission of a message to future generations are, in fact, endemic to communication in general rather than mere technical problems that have occurred because of a certain set of specific conditions. Stranger still, it would follow that what *had* appeared as problems are more like enabling conditions for the possibility of meaning being communicated at all. This is to say that it would no longer be a defect of writing that it could be taken up in another context and interpreted differently. Rather, the possibility of a written or engraved message being taken up in a context so radically different that the exact reproduction of meaning becomes effectively impossible will turn out to be necessary for any meaning to be communicated at all and in all cases, including those that appear initially to be more "immediate," such as speech.

These are the stakes and the upshots of such an analysis. Let us turn now to "Plato's Pharmacy" in order to see how, exactly, Derrida makes his argument, before comparing it to the argument made in "Signature Event Context." The second section of Derrida's "Plato's Pharmacy," entitled "The Father of Logos," begins with the recitation of a myth. Derrida inserts a long quotation from Plato's *Phaedrus* in which Socrates tells a story passed down from his forefathers. This story, Derrida had noticed, is not a "rational discourse or *logos*," but instead an *akoe*, "a well-known rumor."[13] Derrida asks us, at this point, to consider that Socrates provides us with a myth for the origin of writing rather than a rational discourse, a *logos*, an argument. And this myth is explicitly inherited. Socrates writes: "I can tell you what our forefathers have said about it, but the truth of it is only known by tradition" (274c).

[12] Johnson 1981, ix
[13] Derrida 1981, 74.

Such is the rendering of Plato cited in Barbara Johnson's translation of Derrida's text.[14] The Loeb edition, translated by Harold North Fowler, runs as follows: "I can tell something I have heard of the ancients; but whether it is true, they only know."[15] The Greek here is: ἀκοήν γ᾽ ἔχω λέγειν τῶν προτέρων, τὸ δ᾽ ἀληθὲς αὐτοὶ ἴσασιν." It would require better Greek than mine to parse the difference between translations in the Greek, but what is interesting for us is whether the truth of this matter is known to the ancients ("*they* only know") or known only in and through that tradition of myth-telling (the truth of it is "*only* known by tradition"). That is, does the truth lie in the knowledge possessed by those now absent, the ancients, the *proteron*, those who came before or preceded us, or does the truth lie in the encounter with tradition that Socrates's telling represents? Appropriately, Johnson's rendering stays closest to Derrida's own. In "Plato's Pharmacy," Derrida writes, "Or le vrai, c'est elle [l'*akoè* des anciens] qui le connaît,"[16] "But the truth is known by it [the *akoè* of the ancients.]" As we shall see, Derrida and Johnson here make the decision to emphasize the role played by the tradition of telling, by the chain of transmission, itself as the repository of truth. The truth is not buried in the past with our ancestors waiting to be excavated. Rather, it lies in the tradition itself and there it can be discovered.

Derrida can thus write that "the truth of writing [that is, the origin of writing], that is, as we shall see, (the) nontruth [this truth is just a telling, a rumor, a fable, or a myth], cannot be discovered in ourselves by ourselves. And it is not the object of a science, only of a history that is recited, a fable that is repeated."[17] So what is true about writing is known to us insofar as that truth was transmitted and, moreover, transmitted past the point of originary authority. As Derrida has it "at the same time, through writing or through myth, the genealogical break and the

[14] Ibid.
[15] Plato 1914, 561
[16] Derrida 1972, 92
[17] Derrida 1981, 74.

estrangement from the origin are sounded."[18] Socrates links writing with absence at the moment that writing's own origin is expounded. What of this origin, then?

Socrates first introduces Theuth, a god of ancient Egypt who lived at Naucratis. Theuth is the inventor of numbers and calculation, geometry and astronomy, draughts and dice, and "above all" writing. Theuth defends each of his inventions before Thamus, another name for Ammon, the King of the gods. Theuth defends writing by making the claim that "[t]his discipline, my King, will make the Egyptians wiser and will improve their memories: my invention is a recipe for both memory and wisdom."[19]

Let us follow Derrida in stopping here, before the king replies, in order to make a few gestures very quickly. First: the inventor of writing, Theuth, will not have the final say about the value of writing. Theuth is clear that *he* thinks writing will benefit Egyptians, but, ultimately, writing is being *offered* to the King before it can be offered to the people. Second: although writing has been "invented" and is being held up for judgment as something invented, it is also a capacity for invention. It is, to use Derrida's language, a "work that is itself an art, a capacity for work, a power of operation."[20] Third, writing is understood as *pharmakon*, "recipe" here, *remède*, or remedy in the French. Derrida will stress the ambiguity of this word whose meaning is decided in and through its translation. The remedy that is writing may also turn out to be a poison. Writing is that artifice that may either provide us with a cure or may poison us. It is not yet clear whether its survival, the fact of writing*'s possible* survival, hurts us or harms us. This, we should note, is precisely the ambiguity at play with respect to the texts and writings this dissertation is concerned with as a whole: the markings and warnings that would accompany

[18] Ibid.
[19] cited in Derrida 1981 75, see Plato 275e5
[20] Derrida 1981, 76.

radioactive waste so as to allow future generations to take it up responsibly but perhaps by contaminating that future.

There is an interesting convergence between the question of the nuclear and writing's status as both toxic and palliative in Jean-Luc Nancy's book on the Fukushima disaster. Writing there on technological advancement, Nancy argues that greater interconnectivity has effectively produced "our social lives as endlessly equivalent means to ends: wealth, health, productivity, knowledge, authority, imagination, all enlisted in the same logic whose general principle seems to be the conversion of quantity into quality."[21] This technological equivocation extends as far as the distinction between the natural and the technological—the Fukushima nuclear disaster is taken up as exemplary of this equivalence—and is reinforced through the capacity of technological communications to spread these equivocations like a virus. And so Nancy can argue that not only is tele-communication harming us rather than helping us, but, worse still, "Communication becomes contamination; transmission becomes contagion."[22]

All three of Derrida's gestures aim to reassert writing as that thing which must be handed over in order to be evaluated because, as product and as art, it might turn out to be helpful or harmful. Writing as such, as well as each instance of writing, is shot through with potential and ambiguity. And, just as Thamus will stress that Theuth, "*as the father of letters,*" is unable to appraise his invention himself, Derrida is preparing to make the complex claim that Socrates' speech on the usefulness of writing may not be best understood by Socrates (or, for that matter, Plato) either. Derrida will return to this point, but for the time being, we must keep in mind that writing as handed over, writing as artful artifact, and writing as *pharmakon* are the designations Derrida pulls from "the letter" of Plato's text, that is, this beginning of the critique of writing

[21] Nancy 2015, 34.
[22] Ibid., 34

proceeds from reading Plato's text "on its own terms," to borrow the language used by Michael Naas in "Earmarks."[23]

This section of "Plato's Pharmacy" is entitled "The Father of Logos." And, fittingly, the father-figures have begun to multiply. Theuth, as we saw above, is "the father of letters" and, according to Thamus, therefore describes writing as having its opposite effect—Theuth thinks that writing will improve the memory of Egyptians. But Derrida's own first mention of paternity is in reference to Thamus/Ammon himself. Thamus, "god-the-king-that-speaks is acting like a father."[24] Derrida writes that "the *pharmakon* is here presented to the father and is by him rejected, belittled, abandoned, disparaged. The father is always suspicious and watchful toward writing."[25] Sovereignty here plays the role of determining the identity of the father. For Thamus, Theuth is the father of letters, by virtue of his having produced them. That is, Theuth's generative powers (which have produced, let us again recall, another "capacity for work") designate him as a father. But for Derrida, in "Plato's Pharmacy," Thamus is the first father, the sovereign father, the king who, as king, "does not know how to write" and, indeed, "has no need to write."[26] As sovereign, Thamus's "word suffices," Thamus's word contains its own authority, or, put differently, authority is interior to Thamus's speech.

Such a decision on Derrida's part is revealing. In Derrida's reading of Plato, the father is the one who speaks and has no need of writing. For Derrida, it is a hallmark of the "Platonic schema" that the "origin and power of speech, precisely of *logos*" is assigned a "paternal position."[27] But, Derrida immediately cautions us, we should not understand him to be claiming

[23] Naas 2010, 46.
[24] Derrida 1981, 76
[25] Ibid.
[26] Ibid.
[27] Ibid.

that *logos is* the father. That is, the claim here is *not* a sort of syllogism like "In *Phaedrus*: Thaumus is speech and Theuth is writing; Thamus is greater than Theuth, therefore, speech is greater than writing." On this point, Derrida is quite specific: the *origin and power* of speech is assigned the paternal position in the Platonic system. The origin of speech would be the speaker, not speech itself. In this sense, *logos* is, in fact, another son. If, as speech, this *logos* is greater than orphaned writing which continues to operate in the absence of its origin, it is because the power of speech is in presence—a presence which *is* at all only through "the present *attendance* of his [that is, *logos*'] father."[28]

A speech that could "survive" the absence of its father would be nothing more than writing. Writing would be that speech that is orphaned and, in being orphaned, makes the minimal claim that it *can be* without the father. This is to say: if writing is speech in the absence of the father, then writing is speech that does not need the father. As such, it is speech without the responsive power of the father. Writing is dangerous because it is essentially subversive or insurrectionary, maybe even anarchic. And, insofar as writing is, as we saw above, also a capacity to work, that is, writing is that power that would let Egyptians write, then writing is not just itself subversive, but the possibility of subversion in general, a subversion that could be taken up by others. Writing would be criminal by definition. Or at least this is what Thamus/Socrates/Plato's argument is telling us.

We might ask at this point whether or not Derrida is simply taking his reading too far. In Plato's text, Thamus condemns writing because, in taking the place of memory while remaining outside the one who uses it, it weakens one's own memory rather than improving it. In his own name, Socrates insists only that "every composition trundles about everywhere in the same way"

[28] Ibid., 77.

and that "it always needs its father to help it; for it is incapable of either defending or helping itself" (275e). In what way does Derrida justify his insistence that Plato takes writing as a threat to sovereignty itself in and through its independence from the figure of the father? Perhaps, as translator Christopher Rowe has it, Derrida's essay "despite its influence among some readers of the Phaedrus—tells us more about Derrida than about the Phaedrus, or about Plato."[29]

If I am here emphasizing the criminal aspect of Derrida's claim about writing-as-orphan, it is in order to make clear the stakes of the "paternal position" Derrida connects to the origin and power of logos, albeit perhaps at the risk of succumbing to precisely the temptation to give into the "easy passage uniting the figures of the king, the god, and the father."[30] Derrida is clear that such a passage between figures is not necessary in order for his reader to take up the thread of his principle argument: that the Platonic schema is a) permanent—permanently written into Plato's corpus and permanent in the construction of the tradition of the conceptuality Western metaphysics that Plato inaugurates or "sets up"; and b) a carefully and inevitably consistent "system" that can fall under the name "Platonism."[31]

This is all to say that the Platonic system does and must reserves a place at the head of the table for the origin and power of logos—presence. And it does so in the name of life. Indeed, just as Derrida makes the explicit claim that the metaphor of fatherhood in connection with the origin of *logos* "belongs to a whole system," he will add that, "if *logos* has a father, if it is a *logos* only when attended by its father, this is because it is always a being (*on*) and even a certain species of being, more precisely a *living* being. *Logos* is a *zoon*. An animal that is born, grows, belongs to the *phusis*."[32] We must be sure to understand that the claim that *logos* is a living being

[29] Rowe 2005, xxxi.
[30] Derrida 1981, 76.
[31] Ibid.
[32] Ibid., 79.

and the claim that the origin of *logos* stands in relation to *logos* as a father to his son are part and parcel of one and the same reading and the same system.

Writing, then, which stands in opposition to speech, possesses a "cadaverous rigidity."[33] Corpselike, it is non-responsive. And so, again, we understand that if *logos* is living, it is living only by virtue of having a father and having that father be here with it. If writing is dead, it is because it is non-responsive. Let us note here the resonances with Gramsci's text, as we saw it in the previous chapter. There, Gramsci insisted that a language or dialect that was not capable of response was itself dead, and that those languages we call living are more properly "living fossils" insofar as they are both ancient progenitors *and* capable of being taken up and accounting to and for the present. But whereas for Gramsci there was a capacity inherent in certain kinds of meaning-making to be inherited, a principled structure to that which is bequeathed that, because capable of being separated from the given particular context in which it was first uttered, written, or acted on, could be said to be universal, inheritable, and so living, in Plato's text we see that it is the abiding presence of the origin which characterizes speech rather than writing as properly living.

And so we come to what may be the central question of "Plato's Pharmacy": "But what is a father?"[34] The father is in the most obvious sense the origin or cause of the son. But what is the origin? This is precisely where Derrida will force us to acknowledge that being at the origin of *logos* makes one a very different sort of father, or, rather, makes the father a different sort of origin. Derrida writes: "The father is not the generator or procreator in any 'real' sense prior to or outside all relation to language," it is distinguishable from "mere cause and effect" in that "it is

[33] Ibid.
[34] Ibid., 80

precisely *logos* that enables us to perceive and investigate something like paternity."[35] It is *logos*, as account, that makes sense of the father. The father as father comes only after the *logos* comes as *logos*. In all cases, the father can claim only to be the father through "the essential possibility of *logos*."[36] It is for this reason that Derrida insists that, when it comes to the father, to the origin itself, "it is not possible to speak simply or directly."[37] The father is hidden by the necessity what it will haven engendered. If it is a source of *logos*, it is hidden behind *logos*.

"Up to now we have only followed this line so as to move from *logos* to the father, so as to tie speech to the *kurios*, the master, the lord, another name given in the *Republic* to the good-sun-capital-father (*pater*). (84).

In order to look more closely at the manner in which the figure of the origin is destabilized in this thinking of writing and speech, presence and absence, it will be helpful here to turn back to "Signature Event Context" where the origins in writing and speech are taken up in the context of the possibility of communicability and meaning.

3.3 Context and Iterability

At this point, one might worry that by so totally decentering the appeal to origin in communicating meaning to another Derrida has collapsed the structure of meaning altogether and so left us with a form of absolute relativism, whereby any meaning can, with equal legitimacy, be pulled from any potentially meaningful utterance. As such, one of the goals for this section will be to establish a difference between the claim "All meaning is dependent on indeterminate context," which I take to be a fundamental argument of Derrida's, and the second,

[35] Ibid.
[36] Ibid., 81
[37] Ibid., 82.

relativistic claim that "any utterance can give rise to any meaning without limit," which I take to be utterly ruled out by Derrida's own argumentation.

In the previous section, I reconstructed some of Derrida's argumentation from "Signature Event Context" in order to highlight the ways in which Derrida rejects an understanding of communication that would take the unaltered transmission of an original meaning as its goal. We turned to "Plato's Pharmacy" in order to situate that argument in the context of Derrida's wide-sweeping project of critiquing the opposition of presence and absence that has, on Derrida's account, structured the development of Western metaphysics since at least the time of Plato.

Let us, then, return to the figure of "writing" and see what Derrida has to say about writing and context. We will recall that the stakes here are in evaluating a certain use of writing, namely, the creation of long-lasting communications that would be sufficient for imparting the information deemed necessary for future others to take over responsibility for our radioactive remains. To begin, we can ask what, exactly, Derrida means here by writing? In "Signature Event Context," Derrida engages with, among others, the analysis of writing provided by Condillac who here fills the role played by Plato in "Plato's Pharmacy" as offering a classical or "ideological" conception of writing. "Ideological" here is not, Derrida warns, intended to name a conception of writing that would be opposed to the scientific or that would be ideological by virtue of being dogmatic. Rather, ideological is a designation made "against the background of a vast, powerful, and systematic philosophical tradition dominated by the self-evidence of the *idea* (*eidos*, *idea*)" in which there has been "elaborated a theory of the sign as a presentation of the idea, which itself represents the perceived thing."[38] Simply put, this is a tradition that insists that one first perceives what is present, and then represents that perception in one's mind as a

[38] Derrida 1982, 314.

representation, and that idea is itself then represented by a sign, spoken or written. Signs, then, are taken up as representations of representations. Therefore, communication "vehiculates a representation as an ideal content (which will be called meaning); and writing is a species of this general communication."[39] Communication would just be the name for the transportation of ideal content from one subject to another. When we say that you have grasped my meaning, on this model, we mean that the ideal content I intended to transmit by my use of signs has engendered in you the same ideal content that I sought to represent in my use of signs.

What would, on this account, make writing specific (a species of communication that would differ from another, namely, speech) would be, Derrida insists, the role that absence plays in determining what writing is: "A written sign is proffered in the absence of the addressee."[40] And, moreover, this written communication would not be structured around the presumption of a simply delayed future presence. Rather, "'written communication' must, if you will, remain legible despite the absolute disappearance of every determined addressee in general for it to function as writing, that is, for it to be legible."[41] The term "determined addressee" here is doing quite a bit of work in demonstrating that it is absence *as such* that is structuring this view of writing. Namely, Derrida's argument insists that, for writing to function as writing, it must remain legible when the addressee of a specific written utterance is absent, which is to say that the meaning of a given piece of writing is not structurally contingent on *any particular recipient of that writing in fact receiving it*. Even, Derrida goes on to argue, a code that is, in fact, only known to two people would not cease to exist as writing the moment one or both of these encoders is absent (dies, forgets the code, etc.). As code, *that* code remains, in principle,

[39] Ibid.
[40] Ibid., 315.
[41] Ibid.

decipherable. Which is to say that that code could be taken up in a new context by an unforeseen reader and, whether or not they ever do crack the code, it would remain true that they *could* and so the code remains legible. The possibility of a written utterance being read is not dependent on any particular addressee actually reading it: "The possibility of repeating, and therefore of identifying, marks is implied in every code, making of it a communicable, transmittable, decipherable grid that is iterable for a third party, and thus for *any possible user in general.* All writing, therefore, in order to be what it is, must be able to function in the radical absence of every empirically determined addressee in general."[42]

That writing is marked by the possibility of its being legible, in principle, in the absence of any determined addressee would mean that writing is not ever *for* someone in particular to the extent that it would be illegible absent that someone. And this is true of the author of the writing as well, in that (and this will be more familiar given our reading of "Plato's Pharmacy" above) the nonpresence of the author could not keep this writing from functioning as legible. As such, writing seems to have a structure whereby it would be able to continue to operate entirely, one might say, autonomously, without its parent or its intended recipient determining that functioning. Writing is unmoored. It is in this sense that Derrida can write "This essential drifting [*dérive*], due to writing as an iterative structure cut off from all absolute responsibility [*toute responsabilité absolue*], from *consciousness* [*conscience*] as the authority of the last analysis, writing orphaned, and separated at birth from the assistance of its father, is indeed what Plato condemned in the *Phaedrus*. If Plato's gesture is, as I believe, the philosophical movement par excellence, one realizes what is at stake here."[43]

[42] Ibid., emphasis added.
[43] Ibid., 316, Derrida 1971, 376.

Taken together, this implies two effects. First, writing is not exhaustively determined by the present, by the moment in which it is written or inscribed. And so, second, writing can always break with the context in which it is produced without becoming something other than writing, without becoming illegible, even when knowledge of the context of its inscription has been lost. And, importantly, this possibility of repetition, of iterability, that is not essentially anchored by a so-called originary context, is also true of speech, which is ostensibly "present" in a way that writing simply is not, according to the ideological or Platonic opposition established above. What renders speech *meaningful* is not the presence of the speaker, but, precisely, the possibility of the spoken-sign being meaningful in a context distinct from the context of its utterance. An utterance that would only be meaningful to and for the very instant of its production would not be communicative.

At its most basic, the point here is simply that contexts, as indeterminate, are never absolutely and fully repeated, and so meaningful utterances, whether written or spoken, are meaningful only insofar as they are separable in principle from those contexts. It is here that Derrida makes a claim cited twice already in this chapter, that he, Derrida, would be willing to extent this "law" to "all 'experience' in general" insofar as there all experience is mediated in and through a context and thereby is meaningful only insofar as it can break from *any* particular context.

But not, we must insist, from *all* context. This is because the possibility of repetition, the iterability, that provides meaning with its structure is itself expressible only as the possibility of an iterability cut off from an original context and so rendered meaningful by another. There would be no "outside of context" from which the kernel of essential or originary meaning could be observed before or after it has been cut off from another context. Meaning occurs within

contexts, which is just to say that every sign can find itself, potentially, in any context. And citation turns out to be the paradigm example of this possibility, insofar as even those utterances taken to be absolutely without meaning, entirely outside the possibility of communicative repetition, can still be cited as an example of what Derrida here calls "agrammaticality."[44] The French nonsense phrase "*le vert est ou*," translated as "green is or," can, without ever ascending to internal meaning, nonetheless be put between quotation marks and made sense of as an example of this agrammaticality, as it is in this very sentence. Importantly, the fact that this context makes sense of an agrammatical utterance does not make that utterance valid absolutely or essentially. Rather, it illustrates the necessity that each and every utterance find itself in *a* context rather than in *a particular determinate* context. Iterability, the possibility of a repetition that could break with any given context, is at once the insistence that utterances be taken up in context(s), but "contexts without any center of absolute anchoring."[45] The possibility of communication is, in the first place, the rejection of an appeal to absolute determination, once and for all, of any utterances. Without the possibility of repetition in any context, there is no communication at all.

Here, again, we see fascinating resonances with the account provided by Gramsci in the previous chapter. Recall that, for Gramsci, what made a principle universal was precisely its ability to be taken up by future generations interested in reinvesting that principle with meaning given changed material circumstances. French revolutionary principles of equality were manifested as universal at the time of the French Revolution, but were taken up by later revolutionaries as, precisely, the means by which to critique the social forms that arose as a direct result of the French revolution. "Equality for all" was realized as universal *for the French*

[44] Ibid., 320
[45] Ibid.

revolutionaries but, Gramsci argued, was not "universal enough" for the disenfranchised groups that followed in the wake of that revolutionary moment.[46] If one were to insist that, by *Liberté, Egalité, Fraternité*, we mean only and exclusively what was intended by Danton, Robespierre, Saint Juste, Desmoulins, and others, namely, the establishing of a particularly European form of an atheist, bourgeois republic that nonetheless exploits, colonizes, and expropriates (as evidenced by the French Empire that followed the revolution), there would be no inheritance of the French Revolution other than to reinstate its particular forms—an impossible task today. Rather, Gramsci insisted that those principles precisely *refrain* from becoming reducible to concrete material instantiations and so can be taken up, transformed, and made alive again by future generations. It is in breaking from determinate originary contexts that these principles are also broken from the insistence that they be instantiated in specific concrete forms.

However, this account might seem ill-equipped or at least insufficient to explain what, exactly, is going on when the worry is that intergenerational communications of the kind we have been considering that may be taken up in a new context and only partially or inadequately understood *because* of the passage of time. For this reason, we will now seek to expand our understanding of this iterability by appealing to the resonant concept of biodegradability, as it appears in Derrida's 1989 text "Biodegradables: Seven Diary Fragments."

3.4 The Survival of the Nonbiodegradable

Biodegradables is an interesting text for us to consider for a handful of reasons. Firstly, the occasion of its writing was the opportunity for Derrida to respond to numerous critics following the 1988 publication of Derrida's "Like the Sound of the Sea Deep within a Shell: Paul de Man's War," in which Derrida reflected on the legacy of his friend Paul de Man, whose anti-

[46] See Gramsci 1994, 21.

semitic and pro-Nazi writings for a major Belgian newspaper during the German occupation of the Second World War came to light after de Man's death. As such, questions of legacy and inheritance feature prominently. Secondly, because de Man had already died and because "Biodegradables" is mostly concerned with Derrida clarifying his own position to critics, the questions of legacy and inheritance are cashed out in terms of textual survival and legibility, offering us the opportunity to bring together themes from our look at "Plato's Pharmacy" and "Signature Event Context" with the question of nuclear semiotics that has occupied us thus far and the question of the inheritability of languages as it occurred in Gramsci. Third, because many of Derrida's critics frame Derrida's earlier text on de Man as a defense or exculpation of de Man by Derrida, the questions of legacy, inheritance, textual survival, and legibility become embroiled in questions of responsibility. Fourth, "Biodegradables" is one of the few texts in which Derrida's writing takes on explicitly ecological language: the titular language of biodegradability, to be sure, but also the language of waste, of digestion, and so of compost, and, importantly, of the radioactive.

Finally, "Biodegradables" provides us with a means of thinking the normative status of Derridean designations like "survival"' or "iterability" or "the possibility of being grafted onto new contexts." Namely, we, at this point, might think that it is "good" if a text be repeatable and "bad" if a text fail to allow itself to be inherited in the way that Derrida or Gramsci describe. While it is certainly the case, as I have been arguing, that the presumption to self-identical repetition would rule out the possibility of responsibility in advance, insofar as it would close of the possibility of an inheritance, it would be importantly misguided to think that, therefore, instances of iterable survival—what will here be called biodegradability—is either Derridean code for "morally appropriate" or even unique to certain phenomena and so excluded in advance

as a possibility for others. Rather, in "Biodegradables," Derrida will insist that "like biodegradable, nonbiodegradable can be said of the worst and the best."[47]

"Biodegradables" begins with questions: "What is a thing? What remains? What, after all, of the remains…? [*Quoi du reste*….]"[48] These questions immediately blur into a reflection on Derrida's dreams from the night before. Derrida has decided to "take notes on what remains certain of my dreams, before they sink back into oblivion."[49] What dreams remain will turn out to be related to what dreams "already have a verbal consistency" insofar as "this promises them an ideal identity, an autonomous existence of sorts, at the same time lighter and more solid."[50] It is in bringing these shifting, ephemeral dreams to language that some measure of stability could be promised. After all, as we have seen, language, or bringing a representation to language, is at once the promise that this language *could* be repeated, even if it never is. Attaining a "verbal consistency" is to delimit possibilities to such an extent that *an* identity could be promised. "This was the dream about the buried treasure and *not* the dream about the hospital." But this ideal identity, this autonomous existence, is not immediately linked to life, or at least not pre-reflective notions of organic *bios*. Rather, this "autonomous existence of sorts," which promises a continuity, a stability, a duration, "is like the solitary persistence of a wreck. Its form run aground is stabilized in the sand. One might see it surge up through the morning fog in the manner of a damp ruin, jagged, covered with algae and signs."[51] Its being run aground and stabilized is, at once, "a chance as well for the deciphering to come when the thing resists. The promise of work and reading, at least for a little while."[52] The promise of reading, deciphering,

[47] Derrida 1989, 815.
[48] Ibid, 812.
[49] Ibid.
[50] Ibid.
[51] Ibid.
[52] Ibid.

of working over a thing that is a ruin and by way of being a ruin seems to at once promise an ideal identity and autonomy, is a promise of work to do. The dream, stabilized in language, is a ruin, promised to the future as something to be read.

Derrida follows on these reveries that restate the philosophical interests he has been investigating for the past 20 years or more, at this point, with the following assertion. "*Longtemps je me suis,* for a long time I have—been interested in the 'biodegradable. In the word or the thing? Difficult to distinguish, in any case in this case?'"[53] Does an interest in the biodegradable signal for us an interest in the thing called 'biodegradability' or in the word 'biodegradable' itself? In this case, the latter is an instance of the former. Derrida draws our attention to the fact that the term biodegradability is usually said of what is artificial. It signals a promise that this thing will let itself be decomposed, which is to say it names precisely a thing that "does not remain, an essentially decomposable thing, destined to pass away, to lose its identity as a thing and to become a non-thing."[54] The word 'biodegradable' itself is itself artificial, and, indeed, "a recent artefact" that "overloads language with a supplement of artifice" insofar as it is "a modern and unstable graft of Greek and Latin."[55] It combines the Greek *bios*, life, with the Latin *des*, down, and *gradi*, to walk, go, or step. Biodegradability's etymology points us to its meaning as a life-going-down, but also to the synthesis of two distinct languages and histories which are, of course, today, in English and in French, not so clearly distinct as all that.

One might think, Derrida muses, that this artifice in language makes such a word *more* biodegradable, as a presumably more natural substitute could come along at any moment. And

[53] Ibid, 813.
[54] Ibid.
[55] Ibid., 815.

yet one might also think that it is precisely the artifice of this word that renders it *less* biodegradable than another word, insofar as it would resist belonging "to the organic compost of a single natural language."[56] The question is whether artifice and graft make a thing, a word, more or less durable. Is the word 'biodegradable' like *the* biodegradable, destined to shed its artificial identity, or will it "be seen to gloat on the surface of culture like the wastes whose survival rivals that of the masterpieces of our culture and the monuments that we promise to eternity."[57] Later, he writes "[e]verything that is 'biodegradable' lets itself be decomposed or returns to organic nature while losing there is artificial identity."[58]

This stunning passage equates the survival of artifice with the survival of waste with the survival of monuments in a manner that we have seen replicated by the architects of nuclear waste repositories and the authors of the message seeking to construct an archi-text, of sorts, that would remain legible as the basis of future understanding for as long as the waste remains—a promise to eternity.[59] And it is here that Derrida begins to ask about the text itself, about language, in terms of its survival and its decomposition. Would we not want to say, for instance, that our academic discourse, such as a dissertation on nuclear waste or notebooks compiled in a prison cell or a response to critics published in a journal over thirty years ago on the subject of an author who has been dead almost forty years and has been compromised by texts authored eighty years ago or more, is itself "in a constant state of recycling" whereby it is submitted to "composition, decomposition, recomposition?"[60] All of these questions circle around the central questions: What remains of what is produced? What can be said to have survive? What survival

[56] Ibid.
[57] Ibid.
[58] Ibid., 828
[59] Indeed, a 2011 documentary on nuclear waste disposal bears the title *Into Eternity*.
[60] Derrida 1989, 815.

can be promised? Derrida's question of this so-called de Man "affair" is simply "What will remain of all this in a few years, in ten years, in twenty years? How will the archive be filtered? Which texts will be reread?"[61] Derrida warns that we ought not confuse this sort of survival or writing with that which appears in publications, archives, and libraries. Survival occurs in many ways, in and through a writing, artifice, or utterance being precisely "assimilated, circulating anonymously within the great organic body of culture, as would one of those metaphors called 'dead.'"[62] This is to say that the process of decomposition is itself one of survival, as that which decomposes is made a constitutive part of the context into which it dissolves. As with radioactive decay, the degradability of texts is precisely its continuing to disperse itself in its context. It is in this sense that Derrida invokes the "logic of the unconscious" according to which "nothing is destroyed and thus no 'document' 'biodegrades,' even if it is, according to some criterion or other, the most degraded or the most degrading."[63] Like nuclear waste, its survival is precisely its decay.

What sort of monument is it that we are building out in the desert to safeguard our nuclear waste and to inform future generations? As Peter C. van Wyck points out, if we consider the issue here to "really" be about "making a monument that can endure time" we have not only misconstrued the problem, we have done so in order to make of it a purely technical problem.[64] Materials would need to be used that could last as long as the waste. There is something reminiscent of the joke about why airplanes aren't made out of the same thing as the "indestructible" black box meant to be recovered after a plane crashes. Ideally, the monument needs to survive *as if* it were made out of radioactive waste itself.

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[61] Ibid., 816.
[62] Ibid.
[63] Ibid., 814.
[64] Van Wyck 2005, 80.

But when this logic is transferred to the message itself, we are required to understand the problem differently, in this now Derridean register. What could allow meaning to survive for as long as the waste? What will remain? Van Wyck argues that "such undertakings are not exactly about the future. Rather, they are about the anxiety of the present—an ontological anxiety—precisely with respect to the very uncertainty of the future (*le dur desire de durer*). The desire is to make permanent that which threatens to disappear irretrievably."[65] And this desire in response precisely to the promise, now threat, of endurance. The waste will survive. What of the message?

We appear to be in relatively good shape, then, insofar as, within the bounds of the argument we have been pulling from Derrida so far, the message, as an artefact, as an utterance, a bringing to language, seems destined, in a way, to survive. And yet we know also that not every text can or will survive, or at least survive so as to remain legible. And misreadings are endemic, as Derrida demonstrates again and again through "Biodegradables." Indeed, he insists that:

> One of the most necessary gestures of a deconstructive understanding of history consists rather (this is its very style) in transforming things by exhibiting writings, genres, textual strata (which is also to say—since there is no outside-the-text, right—exhibiting institutional, economic, political, pulsive [and so on] 'realities') that have been repulsed, repressed, devalorized, minoritized, delegitimated, occulted by hegemonic canons, in short, all that which certain forces have attempted to melt down into the anonymous mass of an unrecognizable culture, to "biodegrade" in the common compost of a memory said to be living and organic.[66]

[65] Ibid.
[66] Ibid., 821.

Derrida is exposing here precisely a deconstructive gesture grounded in a seeming contradiction. That there is a serious risk of certain inheritances might be repressed, delegitimated, etc., so as to be melted down into an anonymous mass—losing there their artificial identity. By understanding that there is nothing outside the text, that context is determinative and determined by each and every instance of utterance, of productions, of communicability, Derrida is able to advance a deconstruction of the history that would obliviate these inheritances and instead to transform and thereby to render legible these inheritances. This is to say that these inheritances, while in danger, were not lost. The traces that would allow them to be exhumed have survived in the margins of our history. And these traces become available in and through the process of biodegradability, as they disperse so as to make up the compost of a culture. Derrida can here write that "in the most general and novel sense of this term, a *text* must be '(bio)degradable' in order to nourish the 'living' culture, memory, tradition. To the extent to which it has some sense, makes sense, then its 'content' irrigates the milieu of this tradition and its 'formal' identity is dissolved."[67] A text—which, as we saw in "Signature Event Context," is a designation Derrida will extend to experience in general—must be biodegradable insofar as it must play a role in constituting a tradition. And so, its traces can be discovered and rediscovered anew. A text that was utterly cut off from a context, that no longer dispersed itself in and through this operation, would be properly *dead*. It would cease to have any effects at all.

Key here is the admission that this exhuming is not a pure or absolute resurrection or repetition. As we saw above, the reception of a communication is at once an alteration of that communication, insofar as it is being made legible in a context different than the one in which it was ostensibly first produced. What is received is never a pure repetition of its first instance.

[67] Ibid., 845

Rather, as Derrida has it in "Biodegradables," "one transforms by exhuming."[68] At the very minimum in the sense that there is no way to know whether "the presumed signatories of certain documents" have any interest at all in assuring these documents of survival.[69] A diary or an unopened letter can be identified and included in an archive after a long period of having been forgotten, but it could not, or could not always, be said whether or not these signatories would have wanted to see these documents included in their archives. "What ought to be exhumed?" turns out to be a question for the reader, the archivist, the inheritor.

The question is one of responsibility. Responsibility to and for inheritances at the moment that they teeter on the brink of oblivion, for now, for us. And this because our inheritances are transformed in and through their being inherited at all. Biodegradability names precisely this risk. That an inheritance being taken up again transforms it by virtue of its no longer being self-identical with what it was. There is in this understanding no room for a thinking of univocal inheritance—there could not be just one way of inheriting. This is the risk and the promise that our inheritances pose.

What, then, of this nonbiodegradability? What can be said of those things that do seem to endure. Derrida writes here of an "enigmatic kinship between waste, *for example nuclear waste*, and the 'masterpiece.'"[70] These would survive on the basis of their "singular impropriety," that which could not be appropriated fully by any one time, culture, hegemonic canon, etc. But this core of impropriety is not an "authentic" self-identity that would impose itself again and again in the face of all attempts to assimilate it. Rather, as we saw above, what is inassimilable is totality as such, as if every possible determination could be contained in a moment of reception. As we

[68] Ibid, 821
[69] Ibid.
[70] Ibid., 845.

have been stressing again and again, the survival of the waste, just as in the case of the masterpiece, is precisely not in its self-same auto-affection, but precisely in its continuing to be taken up. It is not the case that biodegrability names loss of identity and non-biodegradability names the retention of identity, any more than the reverse would be true. Survival is decay, which is to say that survival is to become dispersed, inherited, taken up, recontextualized again and again.

Note here the similarities, again, with Antonio Gramsci, for whom a language was living as long as it could both be translated and translate. A language was alive insofar as it was capable of responding to its others in and through its use. Similarly, a principle was universal insofar as it could be taken up by future others without the specific content of that inheritance having been empirically determined in advance. The politician who is incapable of responding to present conditions is a "corpse" that imperturbably *continues to speak and to write*."[71] Being inheritable and being inherited, here, are simply different modes of thinking the aporetic pair biodegradability/nonbiodegradability, which we can now see are inextricably bound to a thinking of responsibility. To inherit is to respond. And so we can see why, in *For What Tomorrow*… Derrida insists that "[t]he concept of responsibility has no sense at all outside of an experience of inheritance."[72] In this sense, the figure of the heir is the figure of responsibility by virtue of that inheritance, which is to say by virtue of the means by which what is inherited survives. And so Derrida can add here that "An heir is not only someone who receives, he or she is someone who chooses, and who takes the risk of deciding."[73]

[71] Gramsci 1980, 681. Cited in Jackson 2019. The translation here is Jackson's.
[72] Derrida and Roudinesco 2004, 5.
[73] Ibid, 8

The question that remains for us here is to understand the sense in which this act of inheritance as responsibility can be bequeathed on future generations. The goal, we must recall, of the architects/architext of the nuclear waste repository is to make our inheritors responsible *in our stead*. The language of the imperative reflects this, when the Human Interference Task Force writes: "Future societies with knowledge of the existence and location of the [nuclear waste] repository, its contents, and the risks of interference, bear the full responsibility for any of their actions that can reasonably be expected to adversely affect the performance of the repository."[74] The goal is for the responsibility of the present generation to, one day, come to an end. In the next chapter, we will see how this language of inheritance and decision comes to impact our thinking of the future as such. We will take from Gramsci the insistence that a thinking of the future must itself be inheritable and from Derrida the twin notions that this inheritance is transformative just as it is a constitution of responsibility. But it is the notion of decision here, of taking up an inheritance and so of making oneself an heir, that will not only allow us to reread Gramsci and trouble his insistence on the inheritability of principles but will also allow us to venture a substantive rather than formal critique of the project of long-term geological nuclear waste storage. For, if our claims thus far have been intelligible, it is no longer simply understood to be the case that, unlike our structures and messages, the waste itself remain self-same and auto-affective. Indeed, the problem now properly understood is precisely that, as non-biodegradable *par excellence*, nuclear waste refuses to remain still.

[74] Human Interference Task Force. 1984, 8

4. Turning Towards Irradiated Futures

"Inheritance is never a given*, it is always a task."*
Jacques Derrida, *Specters of Marx*[1]

4.1 Responsibility Before the Future

There are two terms that we have been making use of throughout the above pages which have been meaningful to us in their contexts but have not been treated or defined rigorously and it is to these two terms that we will turn in this final chapter: responsibility and the future. We have seen, for instance, in the first chapter, what contemporary environmental philosophical discourse takes responsibility to count as and how this conception of responsibility informs a certain understanding of what we mean by "the future." But we also found these two determinations to be inadequate. Responsibility couldn't, we argue, simply mean respecting the interests of future persons on the basis that those future persons do not yet exist and so have established no particular interests on their own behalf that could be represented in the present. Rather, as we went on to see in the following chapters, acting "in the interest of future generations" turned out practically, politically, and philosophically to mean assuming that the future would resemble the present to some degree and, when this resemblance could not be assumed, projects and controls are undertaken so as to attempt to *make* the future in the image of the present. As such, responsibility was there best understood as presently existing people, institutions, and/or political bodies responding to images of themselves as if these could represent their descendants. And so, the future itself was there understood as a not-yet-determined mass of potential that, if it is guided into existence in the right way, can, one day, take up responsibility on behalf of present generations. Rather than a model of responsibility towards future generations, we have

[1] Derrida 1994, 67.

discovered in contemporary nuclear waste policy a model of exculpation by means of self-replication—if the future can just be the present after the present, its members can take up full responsibility for the actions of the present generations. Rather than the present generation taking responsibility, it is more apt here to describe the present generation passing on and replicating its *irresponsibility* at the moment or moments of inheritance.

It remains to be seen what we could say, positively, about what responsibility is or ought to be and about how the present could relate to the future so as to avoid determining that future in advance by way of replicating structures of irresponsibility. It is for this reason that we now turn to some of Jacques Derrida's later texts, especially 1993's *Specters of Marx* and 2002's *Rogues*, where Derrida's thinking of the future is articulated in terms of what is to-come [*l'à venir*]. Our goal here will be to establish what the mode of responsibility is that Derrida argues arises before any particular determination and so before a future that is open to and for our inheritors in their futural indeterminateness.

Let us first, however, return to the figure of inheritance. In the previous chapter, we saw the sense in which inheritance was always a transformation, insofar as what is meaningful in a communication or in a reception more generally is meaningful across and through the introduction of that meaning into a new context. Iterable communication—which, we established, is not only a designation generalizable to all communication that can be said to be communicative but to all experience in general—is communicable on the basis that it is not and cannot be constrained to the singular context in which it is produced. Rather, it remains legible, quotable, citable, or, that is to say, meaningful at all insofar as it resists exhaustion by any particular context.

And yet there is something to be said about what is and what is not chosen in inheritance. In affirming that he has always recognized himself in "the figure of the heir," Derrida explains, in *For What Tomorrow…* that "the heir must always s respond to a sort of double injunction, a contradictory assignation," namely, the "formal and apparent contradiction between the passivity of reception and the decision to say 'yes.'"[2] Here, "what characterizes a heritage is first of all that one does not choose it; it is what violently elects us."[3] To our purpose, it would remain true, or seems to us to remain true into the distant future, that our inheritors *will* inherit our waste. There are, already, about half a million tons of radioactive waste extant in the world and this waste is not going anywhere. There can be no refusal of this heritage. As such, the question of inheritance is not the question of refusing outright those aspects of a heritage that are harmful. Rather, the question of inheritance turns on reaffirmation. Here, reaffirmation cannot be, for reasons seen above, the simple repetition of what came before, but instead consists in "relaunching it [this heritage] otherwise and keeping it alive."[4] To keep it alive would mean, in a manner consistent with our reading of Gramsci and Derrida above, precisely to choose to affirm an inheritance in such a way that it continues to compose the present in which it is affirmed as legible, as repeatable, as interpretable *for that present*. The language of "half-life" to describe the endurance of radioactive materials is revealing insofar as it is precisely that material's decay, its gradual abatement, that makes up the process of its continuing to impact the world in which it is found. Its death, the activity of its becoming inert, is precisely its life, the necessity of its being inherited, its being reaffirmed without being chosen.

[2] Derrida and Roudinesco 2004, 3-4.
[3] Ibid., 3.
[4] Ibid.

Derrida's injunction to think inheritance as transformation is responsibility itself—the capacity to respond. And in this sense Derrida can argue that the act of inheritance is the refusal to leave that heritage intact or unharmed: "Not to leave it safe: to save it, perhaps, yet again, for a time, but without the illusion of a final salvation."[5] In this way, "one is responsible before what comes before one but also before what is to come, and therefore *before oneself*."[6] What this means for us in terms of an inheritance of radioactive waste, a material which seems to insist on its own inheritance to an exemplary degree, is, I will argue, best thought through with an understanding of Derrida's triple delimitation of responsibility here as responsibility before what comes before, responsibility before a future, what is to come, and a responsibility before oneself, now, today. So let us now turn towards the future to come to see how this temporal designation plays out in a handful of Derrida's texts.

Derrida's works are all, to an extent, oriented around the question of futurity. We saw in the previous section the manner in which his thinking of communicability is structured around the possibility of that communication being meaningful in any future context, for instance. But *Specters of Marx* is a site of particularly sustained reckoning with futurity as a political and ethical theme. *Specters of Marx* was initially delivered over two days at the University of California Riverside at a conference entitled "Whither Marxism? Global Crises in International Perspective." As this title demonstrates, this conference was above all concerned with the question of futures for the critical and political projects gathered under the proper name "Marx." Such a concern follows from the time of this conference. As Bernd Magnus and Stephen Cullenberg explain in their "Editor's Introduction" to the English translation of *Specters*, one of the questions motivating this conference was "What remains of the socialist vision(s) after the

[5] Ibid., 4
[6] Ibid., 5-6

'collapse' in 1989?"[7] That is, after the apparent collapse of explicitly Marxian-inspired global political power bases, most dramatically the dissolution of the Soviet Union, what was the future for Marxian visions of the future?

It is in this context that Derrida's *Specters of Marx* takes up questions of futurity, of debt, and of mourning. And these themes are developed in orbit not only around sustained readings of Marx's "Eighteenth Brumaire," *Capital*, and *The German Ideology*, but also, and to the consternation of contemporary and subsequent inheritors of Marx, around a reading of Shakespeare's *Hamlet*. Specifically, around Hamlet's famous lament that "the time is out of joint." For it is not only the specters in Marx's own text that will hold Derrida's attention, but the figure of the specter in general and as it is worked through in Shakespeare's play. *The Communist Manifesto*, of course, begins by invoking a specter haunting Europe, "the specter of communism," and in this sense resembles *Hamlet*, wherein "everything begins by the apparition of a specter. More precisely by the *waiting* for this apparition."[8] It is a question of waiting for the ghost, the revenant, to return in and for the future. And so Derrida signals, at the inception of his text, that this future will be a future of ghosts.

Already we can begin to observe the resonances Derrida's reading of Marx holds with Gramsci's. For both Gramsci and Derrida, the future that we wait for is not constituted by determinate content. The specter is not fixed by the past. Derrida writes here that, for Marx, "the specter is a paradoxical incorporation, the becoming-body, a certain phenomenal and carnal form of the spirit. It becomes, rather, some 'thing' that remains difficult to name: neither soul nor body, and both one and the other."[9] The specter is taken up precisely as that which one does not

[7] Magnus and Cullenberg 1994, viii
[8] Derrida 1994, 2.
[9] Ibid., 5

know, exactly: "It [the specter] is something that one does not know, precisely, and one does not know if precisely it is, if it exists, if it responds to a name and corresponds to an essence. One does not know: not out of ignorance, but because this non-object, this non-present present, this being-there of an absent or departed one no longer belongs to knowledge."[10] If the specter is not known, it is not because we do not know enough. It is not as though with a little more research one could finally determine what, exactly, the specter is. The specter is, in Marx and in Shakespeare, known only by the promise of its return—that it will return.

In this sense, the question of the ghost is at once the question of "repetition *and* first time," which would also be the question of what Derrida here calls "the event."[11] To be haunted by the ghost is, it seems, to have the past be made present, which is to say a repetition of the past in the present. And yet this repetition would itself be new, hence not only a first time but a last time, since a future repetition could only promise that it too would be different: "Repetition *and* first time, but also repetition *and* last time, since the singularity of any *first time*, makes of it also a *last time*. Each time it is the event itself, a first time is a last time. Altogether other [*Toute autre*]."[12]

Here Derrida reframes the logic of iterability that we saw articulated in "Signature Event Context" and of biodegradability in "Biodegradables" as a logic of specters and haunting. He names this logic "hauntology," which, in French, would be phonetically indistinguishable from the classical philosophical designation "ontology." Hauntology would name a logic that would be more comprehensive, "larger and more powerful," than ontology, which is concerned narrowly with questions of Being and non-being, that is, with the question "to be or not to be."[13]

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[10] Ibid.
[11] Ibid., 10
[12] Ibid. For the original French see Derrida 1993, 31.
[13] Derrida 1994, 10.

More comprehensive, larger, more powerful, in that hauntology would also comprehend eschatology and teleology, that is, with the future as such insofar as hauntology comprehends the future "incomprehensibly."[14] This because the sort of being and non-being at issue are turned as a question repetition and return.

We observe here a repetition of Derrida's reading of Plato's suspicion with regard to writing. We recall that Plato's privileging of speech over writing was taken up as indicative of a privileging of presence over absence. Derrida argued in "Plato's Pharmacy" and "Signature Event Context" that if writing is constituted by not just the possibility but, in fact, the promise of future absence, so too was speech and, indeed, experience in general. Presence itself is taken up as structured by absence. In *Specters* we see that logic working itself out in terms of temporality and so of *the* present.[15]

"The time is out of joint," says Hamlet, and Derrida repeats the Danish prince again and again in *Specters*. For Hamlet, the time being out of joint represents a sort of doom, for, because the time is off its hinges, Hamlet finds himself born to set things right. Hamlet names for himself a destiny of correction in the face of a ruined inheritance and, in doing so, curses a time that is *itself* out of joint. Derrida explains: "'The time is out of joint': time is *disarticulated*, dislocated, dislodged, time is run down, on the run and run down [*traqué et détraqué*], *deranged*, both out of order and mad."[16] It is time itself that is out of order, which is to say that time itself has become achronistic. And this "time" can and has been translated, taken up, reinserted into contexts, in a variety of ways in the time since Shakespeare wrote of it. "Time" here may be *le temps*, "the

[14] Ibid.
[15] Temporalizing the critique of the classical ontological distinction between presence and absence is not unique or new to Derrida's work in 1993 and beyond. It appears as a constant and necessary aspect of his work in a variety of different context. To name just a few here that this project cannot engage with directly, see "Ousia and Gramme" in Derrida 1982, and the publications that followed from Derrida's 1978-9 seminar *Donner le temps*, see Derrida 1992 and Derrida 2021.
[16] Derrida 1994, 20.

temporality of time, or else what temporality makes possible," that is, time itself as the time of history, the time in which there is history or in which history is possible.[17] Or this time is "the times," in the colloquial English sense, "the *monde*, the world as it turns, our world today."[18] It is, then, a disordered world which would need to be set right on its hinges (again). Time is "time, history, world."[19]

And it is this polysemic time that Hamlet bemoans. We read in *Hamlet* that Hamlet opposes this time that is out of joint with a time that would be right, insofar as he sets for himself the task of setting it right. That the time is out of joint is, then, a call for Hamlet *to* put things right, and so to do justice. And in cursing not just the time in which time is out of joint but also that he must therefore set things right, Hamlet, Derrida takes care to point out, is cursing not only a corrupted time and a destiny; Hamlet is also and ultimately cursing himself. Let us read this passage in its entirely:

> He [Hamlet] curses his mission: to do justice to a de-mission of time. He swears against a destiny that leads him to do justice for a fault, a fault of time and of the times, by rectifying an *address*, by making of rectitude and right ("to set it right") a movement of *correction*, reparation, restitution, vengeance, revenge, punishment. He swears against this misfortune, and this misfortune is unending because it is nothing other than himself, Hamlet. Hamlet is "out of joint" because he curses his own mission, the punishment that consists in having to punish, avenge, exercise justice and right in the form of reprisals; and what he curses in his mission is this expiation of expiation itself; it is first of all that it is *inborn* in him, given *by* his birth as much as *at* his birth.[20]

[17] Ibid., 21.
[18] Ibid.
[19] Ibid.
[20] Ibid., 23-4

If Hamlet curses not only the state of the world, the times, that require correcting but also *that* the times themselves demand this of him, could demand this of him, or that he is such that this demand could be placed on him, he curses the very conditions of his own existence as such. For Hamlet is nothing other than that which occurs at this time and under these conditions. Without this inheritance, there is no Hamlet. When Hamlet curses his destiny he curses his own existence.

Here we can notice at least one interesting parallel with a position that, above, I referred to as indicative of a larger tendency in dominant accounts of intergenerational responsibility. What Derrick Parfit's "Non-Identity Problem" was meant to raise for us as an issue was the fundamental dependency that the particular identities of our inheritors have on our present actions. Which is to say that future persons are constituted by what will turn out to be *their* pasts. Following this line, Parfit could argue that it is more or less nonsensical to claim that present generations could *harm* future generations because whatever present generations end up doing can only *give rise to* future generations. And because different actions will, over time, give rise to different particular inheritors (which is just to say that different future people will exist depending on the actions of the present today), there is no basis for a moral judgment based on a comparison like "future people are better of if present generations do X rather than Y," since doing X rather than Y cause different people to exist at all.

Following such an argument, it would, inversely, be impossible for future generations to lay claims against their ancestors since, far from harming them, it was the actions that previous generations undertook that caused future generations to exist at all. This is the position of Hamlet here. The tragedy of Hamlet, the character, is in his coming to exist at all, "*to be* and *to be born*" so as to be called to set things right.[21] His only claim against his history is in his very coming to

[21] Ibid., 24.

be. This position of what is no longer "non-identity" but, perhaps, an over-determination of identity at the very moment of Hamlet's coming to be is what, on Derrida's account, is at the heart of the tragic in *Hamlet* and in Hamlet. Derrida writes: "There is tragedy, there is essence of the tragic only on the condition of this originarity, more precisely of this pre-originary and properly spectral anteriority of the crime—the crime of the other, a misdeed whose event and reality, whose truth can never *present themselves* in flesh and blood, but can only allow themselves to be presumed, reconstructed, fantasized."[22] Hamlet is "necessarily second generation, originarily late and therefore destined to *inherit*."[23] Derrida refers to this, then, as "the originary wrong, the birth wound from which he [Hamlet] suffers, a bottomless wound, an irreparable tragedy, the indefinite malediction that marks the history of the law of history as law: that time is 'out of joint' is what is also attested by birth itself when it dooms someone to be the man of right and law only by becoming an inheritor, redresser of wrongs, that is, only by castigating, punishing, killing. The malediction would be inscribed in the law itself: in its murderous, bruising origin."[24] The tragedy is that inheriting a world gone wrong seems to implicate Hamlet in precisely the logic of justice as redress. If Hamlet's father was murdered, it would be up to Hamlet to murder in order to set things right. If the waste is buried, it would be up to our inheritors to keep it safe, to repeat the conditions of its interment in order to have been responsible according to a history that predates our inheritors.

We could call such a conception of the self one of originary anachrony, in that the account provided emphasizes that the subject comes to be themselves in and through being born into a time that is not their own and that doesn't entirely coincide with itself. In *Taking Turns*

[22] Ibid.
[23] Ibid.
[24] Ibid., 24-5.

with the Earth, Matthias Fritsch offers us a reading of both Levinas and Derrida that makes central the role of intergenerationality in Levinas's work on responsibility and in Derrida's inheritance of Levinas. On Fritsch's account, Levinas argues that we are born into a world that predates us and that we take up, albeit never fully, and die in a world that carries on beyond us and takes up our projects, but never without remainder. As such, Fritsch can write that the present "depends on the future to continue its projects, but it also depends on inherited frames of meaning and resources that the living must inherit and appropriate from the past."[25] This dual inheritance and bequeathal means that the living are "morally 'de-presentified' in a double way: by the claim of the past to pass on its legacy to another future, and by the claim of the future to inherit its 'own' possibilities for life."[26] Articulated here is a conception of responsibility that takes itself to be responsible to a time outside of its 'own' time, in an asymmetrical mode. What is by the same token being deepened is an understanding of responsibility as *always* intergenerational in this way, for the living relate to each other as "de-presentified" in that the very possibility of a relation to the other passes through what has been, will be, and is not.

What Fritsch demonstrates is that the meanings we utilize in thinking our selves and our responsibilities towards others are always generated out of this sort of de-presentification and that there is thereby an important sense in which we are constitutively intergenerationally responsible beings. We cannot think the ontological conditions for meaning's occurrence without at once thinking a displaced and other-involved processional determination, where those others are always others that can, have, or will precede us or survive us. And because the contexts we inherit are not fully assimilable by us and are always changed by their becoming related to us, just as we are changed by coming to be related to the inheritances we find ourselves alongside,

[25] Fristch 2018, 94.
[26] Ibid.

we see why Fritsch's claim is that "identities exist only by changing."[27] This taking up and being taken up by contexts that we change and are changed by sets up an understanding of our relation to a future that is open-ended and contingent in its organization and content, but determinative of the possibility for meaning arising at all in a way that maps on to the logic of inheritability we have established in both Gramsci and Derrida. For in this context-determining and being-determined-by context, there is the subject's efforts at returning to itself in passing through its inappropriable pasts and futures. Fritsch succinctly extracts the normative valence of this return when he writes that Derridean différance "gives rise to normative force owing to the fact that, as we've seen, a subject cannot but appropriate from others. But such appropriation is never complete and will not return full circle to the subject."[28] It is this return without completion that gives rise to or is constitutive of a temporally structured, intergenerational, responsible moral subject.

As such Derrida's inheritance of Levinas would be evident in, for instance, *The Beast and the Sovereign II*, where Derrida defines alterity in terms of the other's survival of me and, thereby, the fact that the other will bury me. In that seminar, Derrida writes:

> And however little I know about what the alterity of the other or the others means, I have to have presupposed that the other, the others, are precisely those who always might die after me, survive me, and have at their disposal what remains of me, my remains […] The other appears to me as the other as such, qua he, she, or they who might survive me, survive my decease and then proceed as they wish,

[27] Ibid., 127
[28] Ibid., 129

> sovereignly, and sovereignly have at their disposal the future of my remains, if there are any. That's what is meant, has always been meant, by 'other.'[29]

Because this return to self can never be completed, the relation with the future is properly asymmetrical—what is given or bequeathed, what will be inherited, can never be fully reciprocated by our heirs. It is in this context that we can read the following remark of Derrida's in *Specters of Marx*: "That we *are* heirs does not mean that we *have* or that we *receive* this or that, some inheritance that enriches us one day with this or that, but that the *being* of what we are is first of all inheritance, whether we like it or now it or not."[30] The context in which we constitute ourselves is anterior to our constitution of ourselves and so incomplete. But this incompleteness is precisely what enables us to *then* take up an inheritance at all. As such, any claim concerning the possibility of a full, complete, or exhausted inheritance not only represents a misunderstanding of what enables inheritance in the first place (if we could speak of "first places"), but also a denial of the possibility of responsibility in general. When the Human Interference Task Force writes that future generations with sufficient knowledge would then be, themselves, *fully responsible*, this amounts to an assertion of absolute irresponsibility rather than laying out coherent conditions for future generations' autonomy.

4.2 Tomorrow and Tomorrow

What, then, of the future? If justice is in restitution then perhaps the future that we dream of or yearn for is the future in which justice breaks from this restitutive logic, a "quasi-messianic day" in which justice "would finally be removed from the fatality of vengeance."[31] But would this be a return to a time prior to "the time" being out of joint? What is the status of this

[29] Derrida 2011, 126-7.
[30] Derrida 1994, 68.
[31] Ibid., 25.

messianic or quasi-messaniac future that one could hope for in which (at last? For the first time?) time is not off its hinges? In order to answer these questions, we will turn to Derrida's reading of Marx, specifically, before then considering how Derrida's reading of Marx challenges Gramsci's insistence on the primacy of principles in inheritance.

Let us recall here that the context for Derrida's *Specters of Marx* was a reflection on the so-called "end of history" that would have followed the dissolution of the Soviet Union and so the ostensible arrival of liberal democratic capitalism as the now unchallenged dominant discourse globally and politically. The formulation "End of history" comes to us, famously, from Francis Fukuyama's *The End of History and the Last Man*, a text whose status as the perhaps premature oracle of a new global order is well attested to throughout *Specters of Marx*.[32] There, Derrida describes *The End of History* as a "gospel" insofar as it posits that a "coherent and directional History of mankind" will eventually lead "the greater part of humanity" toward "liberal democracy."[33] Interestingly, the moments in twentieth century history that might challenge such optimism, such as "the two world wars, the horrors of totalitarianism—Nazi, fascist, Stalinist—the massacres of Pol Pot, and so forth," are relegated, on Derrida's account, to "empiricy" and so "in no way refute the *ideal* orientation of the greater part of humanity toward liberal democracy."[34] This entails that this ideal orientation itself "would have the form of an ideal finality" to the extent that even those moments that would contradict it are in fact only moments on the way to this fixed end along with empirico-historical moments that directly support the attainment of this end, such as the dissolution of the Soviet Union.[35] The future is,

[32] See Derrida 1994, 70 in particular as well as *passim*.
[33] Fukuyama 1992, xii, cited by Derrida 1994, 70-1 as *La fin de l'histoire et le Dernier Homme*. Trans D.A. Canal. Paris : Flammarion.
[34] Derrida 1994, 71.
[35] Ibid.

for Fukuyama, constituted by this ideal ordering—history marches in one direction and toward a fixed point. In this sense, Fukuyama's book is a gospel that shares the good news of humanity's ultimate and redemptive end. Like Gramsci seventy years earlier, Fukuyama invokes the French Revolution as a site of democratic inception inherited by the generations that followed it, although, unlike Gramsci, Fukuyama makes explicit appeal to a particularly Christian vision of the future that the French Revolution inaugurates, perhaps in spite of its own famously atheist and anti-Catholic orientation.[36] To this end, Derrida can describe the so-called end of History of Fukuyama as "essentially a Christian eschatology."[37]

What is fascinating about Fukuyama's account, for Derrida, is that it takes this end to be, at once, something that *will* happen, something that history *trends* towards, and something that "would have *already happened*," this latter, in Derrida's words, "because the ideal would have presented itself in its form as ideal, this event would have already marked the end of a finite history."[38] These contradictory evidences for an end that would both have already been instantiated, and at least announced, and yet has not yet attained is to make of the ideal posited one that would be "both *infinite and finite*: *infinite*, since it is distinguished from any determined empirical reality or remans a tendency 'in the long run,' it is nevertheless *finite* since it has happened, already, as ideal, and therefore history is over."[39] And it is for this reason that Fukuyama opts to describe his own project as, in a sense, Marxist as well as Hegelian. Fukuayama posits that the "evolution of human societies was not open-ended, but would end when mankind achieve a form of society that satisfied its deepest and most fundamental

[36] The French Revolution is "the event that took the Christian vision of a free and equal society, and implanted it here on earth." See Fukuyama 1992, 199 and *passim*, cited in Derrida 1994 75-6.
[37] Derrida 1994, 76.
[38] Ibid., 82.
[39] Ibid., 83.

longings. Both thinkers thus posited an 'end of history': for Hegel this was the liberal state, while for Marx it was a communist society."[40] The claim Fukuyama makes about Marx here is straightforward: like Fukuyama, Marx thought a given end for historical progress. Unlike Fukuyama, Marx was wrong.

Indeed, such a gesture names the problem identified by Gramsci and identified by the architects of American nuclear waste policy. Namely, that predictions about the future can and often do go awry. How are we to motivate action, here, in this present, when the success of our endeavours is under such constant and serious doubt? Fukuyama seeks to solve this issue in the same way as the authors of, say, the Human Interference Task Force seen above. By determining the future in advance in its necessity, doubt concerning the end of actions undertaken can be alleviated. And, like Gramsci, Fukuyama can insist that particular empirical instances of a given project attaining or not are simply the wrong metric to use for judging the trajectory of history which, in both cases, again, would be inaugurated in a certain sense by the liberal democratic principles brought to bear on (minimally) Western European history by the French Revolution. Such an account would ask us to "accept provisionally the hypothesis that all that is *going badly* in the world today is but a measure of the gap between an empirical reality and a regulating ideal, whether eth latter is defined as Fukuyama does or whether one refines and transforms the concept. *The value and the obviousness of the ideal would not be compromised, intrinsically, by the historical inadequation of empirical realities.*"[41] This because what is really futural, what really orients us, here, today, towards the future is not particular empirical realities attaining or not, but whether or not the ideal itself survives, is inherited, or taken up. In the case of

[40] Fukuyama 1992, xii, cited in Derrida 1994, 83.
[41] Derrida 1994, 107-8, final emphasis added.

Fukuyama, the ideal of a global, liberal, democratic civil society. In the case of Gramsci, an ideal of classless society of equals, in a Marxian mode.

Derrida, without naming Gramsci, echoes the position we associated with Gramsci in Chapter 2 in writing "This Marxist critique can still be fruitful if one knows how to adapt it to new conditions, whether it is a matter of new modes of production, of the appropriation of economic and techno-scientific powers and knowledge, of juridical formality in the discourse and the practices of national or international law, of new problems of citizenship and nationality, and so forth."[42] The future, then, would be marked by its adherence to an ideal just as the present is denounced, judged, found wanting or to be out-of-joint by the gap between the state of the world and the realization of that ideal, rather than in working out just how many empirical states of affairs do or do not hold.

But a second interpretation is available to us readers of the Marxian inheritance that would function according to a different logic altogether. Derrida writes: "Beyond the 'facts,' beyond the supposed 'empirical evidence,' beyond all that is inadequate to the deal, it would be a question of putting into question again, in certain of its essential predicates, the very concept of said ideal."[43] We will return in a moment to the implications of this putting into question of the ideal, the regulative ideal, in our discussion of Derrida's *Rogues*. But first let us return to this vision of futurity in general as it appears in *Specters of Marx* that emphasizes a relation to the future as a relation to a promise and to what is to come.

The claim above was that there is a resemblance between Fukuyama's understanding of history as arcing towards its own realization according to a regulative ideal and Marx's understanding of history generating the conditions for the classless society to come. Insofar as

[42] Ibid., 108.
[43] Ibid., 108.

history is the history of class struggle, a classless society would signal, at minimum, the end of this history. In this sense, there would be a "messianic eschatology common both to the religions it criticizes and to the Marxist critique," despite these two eschatologies differing in content.[44] As is the case with Fukuyama, this reading of Marx would insist that "Marx views the final materialization of his promise for the classless society as following from the very same logic that brought about the suffering, such that the promise would in some sense justify the suffering and surpass a mournful memory of those victims."[45] If there is an eschatology in this reading of Marx, it is identified on the basis of the promise of the future to make good on the logic of a history that has been the cause of so much suffering on the way to that promised future.

Let us again pause to notice that this eschatological understanding of history is precisely what is at play in contemporary nuclear waste discourse. One day, in the future, the responsibility of the present generation will come to an end as our inheritors themselves take up full responsibility for the waste we have bequeathed them. And, indeed, it will be the repetition of the same conditions that produced the waste that will ostensibly allow future generations to take responsibility for that waste. Insofar as future generations resemble us, they will be sufficiently informed to take over the waste from us. The irresponsibility of the present that produced this long lived waste will turn out to have been responsibility all along if and only if the future inherits this waste by becoming the second coming of the present. Here, Fukuyama's end of history, Marx's classless society, and the full responsibility of future people all take the form of historical messianisms, whereby different content fills the role of redeeming that history,

But a second possibility exists for interpreting Marx, on Derrida's account. One could instead insist on the primacy of the messianic structure for determining particular instances of

[44] Ibid., 74
[45] Fritsch 2005, 15.

messianism: “One may always take the quasi-atheistic dryness of the messianic to be the condition of the religions of the Book.”[46] Such an interpretation would square Marx the critic of religion with the messianic character of the promise of the classless society, since it would require the separation of the anticipatory promise from any particular content that would theologize that promise. The question, however, would then be of the possibility of such a separation: “How separate are conditions from what they condition?”[47] Which brings us to the question confronting Gramsci in Chapter 2, namely, “How can a historically singular event contain at the same time universal elements?”[48]

Derrida has already provided us with ways of thinking through this question through his thinking of iterability, repetition, and biodegradability, as seen in Chapter 3. Namely, insofar as reception in general requires the possibility of new contextualizations so as to be appropriable (better never fully so) by differing contexts, we see in iterability an articulation of both singularity and the possibility of universal reception which is at the same time always the possibility of failed reception. And in this understanding of iterability, there is a conception of the future as precisely that possibility for new contextualizations that would be informed by the past without ever simply repeating it. The future is implicated in the present and for the present insofar as making sense of or determining oneself in the present is an instance of determination that makes sense only insofar as it could be repeated, i.e., promised to a future as iterable. The future, then, is conceptualized not in terms of attaining particular contents (or attaining pre-determined contexts that would allow those particular contents to arise), *nor* as specific principles being asserted over and above any content. Rather, the future itself is promised by

[46] Derrida 1994, 211.
[47] Fritsch 2005, 62.
[48] Ibid., 63.

virtue of the possibilities of the present to be expressed in the first place. This promisory future is part of what is captured in Derrida's spacing of the French word for future, *avenir*, so as to make it *à venir*, "to come." Here, we think the future in the sense of its advent.

If Derrida's second interpretation, a deconstructive reading, of Marx's messianism is an instance of its being "radicalized," it is so by taking Marx's promise and, in the words of Matthias Fritsch, "emptying it of its content, by directing it to a future without horizon or predetermination, rather than to a utopia, a future ideal, or a blueprint that can be sketched out in advance."[49] And it is in this sense that we see some crucial overlap between Derrida's account in *Specters of Marx* and, almost a decade later, in his *Voyous*, translated as *Rogues.* There, speaking of the regulative ideal that would determine the possible in terms of precisely this distance from the ideal, Derrida expresses his reservations with respect to such a determination of the future by way of the regulative ideal. He writes that, outside of its "strictly Kantian determination," the notion of regulative ideal is used in a "very loose way." However,

> in such cases, the regulative Idea remains in the order of the *possible*, an ideal *possible* that is infinitely deferred. It partakes of what would still fall, at the end of an infinite history, into the realm of the possible, of what is virtual or potential, of what is within the power of someone, some "I can," to reach, in theory, and in a form that is not wholly freed from all teleological ends.[50]

This is to say that in the case of the regulative ideal against which empirical facts are judged so as to provide us with a standard against which the success or failure of a given ideal to realize itself, the ideal, because it remains within the order of the possible, structures or determines in advance so as to strip a thinking of the future of its unpredictability or its novelty. And it is this

[49] Fritsch 2005, 60.
[50] Derrida 2005, 83-4

unpredictability or novelty that characterizes the future as such. As such, a thinking of the future that remains within the order of calculable possibility would fail to think the future in the first place—it could only think the future as a repetition of the present.

Indeed, in contrast to such a thinking of the future in terms of the application of a regulative ideal, Derrida insists on a thinking of the future that would be "a question here as with the coming of any event worthy of this name [i.e., "event"] of an unforeseeable coming of the other, of a heteronomy, of a law come from the other, of a responsibility and decision of the other—of the other in me, an other greater and older than I am."[51] What we saw in Chapter 3 as the possibility of communication being grounded on the irreducible singularity of a given utterance resisting the infinity of contexts in which it could be inserted precisely insofar as these contexts constitute it each time differently and unpredictably is here expressed as a heteronomy that comes from both an anteriority prior to and so condition for any determination of my self and from the unforeseeable other of the future that is promised in and through present determinations as iterable. Insofar as this would remain "foreign to the order of my possibilities, to the order of the 'I can,'" Derrida calls such a figure "the *im-possible*" but insists that we consider this im-possible in a manner that would not be privative.[52] This on the basis that the im-possible is precisely not inaccessible but, rather, "announces itself; it precedes me, swoops down upon and seizes me *here and now* in a nonvirtualizable way, in actuality and not potentiality. […] This im-possible is thus not a (regulative) *idea* or *ideal*. It is what is most undeniably *real*. And sensible. Like the other. Like the irreducible and nonappropriable différance of the other."[53] The conditioned and what it conditions are, thus, not separate but rather co-implicated in the

[51] Ibid., 84.
[52] Ibid.
[53] Ibid.

constitution of and being constituted by an achronistic present called to and from an unpredictable and incalculable future.

With such a conception of the future in hand, I would like to take a moment to consider an important critique of Derrida's position here made on the basis that Derrida seems to make of the future something ultimately secure and safe, insofar as this future which is to-come might imply that the future has a necessary character. That is, we could say that because the present is constituted by the promise of an unforeseeable advent of alterity, *that* promise is secure. This is the position taken by Claire Colebrook in her contribution to the volume *Eco-Deconstruction: Derrida and Environmental Philosophy*, "Extinguishing Ability: How We Became Postextinction Persons." There, she writes:

> Derrida's arrow of time and promising went in one direction only and tended toward mobility and ability; the promissory "perhaps" of the future was always one of openness to what could not yet be calculated, determined, decided, or imagined. […] That is to say: on the one hand, death is not *literal* (in the sense of actual), for anything that dies in the narrow sense haunts the present and opens it to possibilities it may have thought were impossible. (Marxism may live on in unheard-of ways.) On the other hand, death is truly literal: it bears the structure of a trace, for anything that "is" has an identity by way of sustaining itself through time, marking out what is the same only by way of relations that are never present in any one moment. The *literal* or the force of the letter, of being the same *through difference*, is what makes any "now" always beyond itself.[54]

[54] Colebrook 2018, 263.

In addition to being excellent exegesis, this passage sets up for us a problem in thinking Derrida's achronistic temporality. Namely, that survival seems baked in, we might say, to Derrida's account. Such a problem was prefigured in our reading of "Biodegradables" insofar as biodegradability, the dissolution of, say, a text, was understood there as a meaning, act, institution, text, etc., reintegrating with the morass of overlapping contexts that constitute and inform the possibilities that are actualized in and through every futural promise of survival. What resists this reappropriation remains the singularity of the event, but it is the constant informing/being-informed, or contextualizing/being-contextualized of that remainder that keeps the thing alive. In Colebrook's words, "the *promise* of those concepts [e.g., justice, democracy, friendship, forgiveness]—because of the conceptual intention of ideality—is to survive and live on in the absence of the original context."[55] And it does seem to be the case that Derrida here retains the possibility of thinking death as part of life, yes, but a part of life that would be de-emphasized when compared with the openness of a future to come in which some sort of survival *will* take place.[56] Colebrook continues: "this was, indeed, the force of deconstruction: to see any letter, trace, inscription, or force as uncontainable, untameable, and monstrous."[57] But what this makes it difficult to think is the possibility of a "complete erasure or loss."[58] Recall that, in "Signature Event Context," Derrida insisted that even were the only two people with knowledge of a code to disappear, the code would remain legible for a future that could, one day,

[55] Ibid.,265.
[56] See Fritsch 2018 for an in depth overview of how this sort of thinking of survival in Derrida is informed by a reading of Emmanuel Levinas's derivation of the imperative 'Thou shalt not kill' from the moral/ontological impossibility of mastering the other through murder. Fritsch writes: "Even in murder, the other retains an immeasurable alterity or infinity and thus an 'ethical resistance,' a remnant of agency condensed into the moral command not to kill (TI 199/218). This agential remnant derives from the incalculability of death for both victim and killer, and thus from an unpredictable future. Death is separated by a 'leap' from the consciousness of our lives (TI 235/261), granting still some postponement of death and the possibility for unpredictable actions to the victim." See Fritsch 2018, 75 and 64-106 *passim*. For Levinas, see here Levinas 1969, 199 and 235.
[57] Colebrook, 266.
[58] Ibid.

decipher it or use it as an example of something indecipherable. Making a similar point using the example of mathematics, Colebrook writes: "the world of mathematics is made possible by a constituted system of traces; ideally or in its meaning, the truth of mathematics should persist and subsist beyond its concrete or literal inscriptions. And one might say that even if all the archival traces of mathematics were to pass away, mathematics could not *literally* be extinguished, its sense would remain true regardless of inscriptive remainders."[59]

Indeed, the issue here is that perhaps the Human Interference Task Force understands this Derrida, the Derrida of survival and the impossibility of "true" erasure, too well. Whether or not there is an abrupt break in knowledge or institutions, the repository will *remain legible*. And, as such, future people will retain the possibility of accessing the information they would need to take responsibility for that repository. As such, the solution to the problem of long term communication for the purpose of handing off responsibility would be to multiply the archive. To produce ever more signs that would inform each other again and again so as to ensure that the repository, like the waste itself, is kept alive.

We could go further still, and post that, on this model, radioactive waste is the deconstructive material *par excellence*. Its decay is its survival, yes, but, and moreover, its decay is asymptotic. The language of "half-life," we will recall, is meant to measure the amount of time it would take half of the initial mass of radioactive material to be rendered inert through radioactive decay. And half of half of half on to infinity only ever approximates zero without ever intersecting with it. It may be the case that the amount of matter that remains radioactive in ten, one hundred, one thousand, or one million years is sufficiently small as to be comparable to the background radiation we live with every day on Earth and which we therefore take to be non-

[59] Ibid., 267

harmful. But this ineffective remainder would, nonetheless, remain. Its future is assured and its half-life makes reference to its immortality. If it is half alive, as its measure evokes, it is because it can never truly die. And, on Colebrook's reading, the same could be said of any of us, of any trace, and of any inscription. And this survival would exist in tension with the ideal of erasure. For instance, that the waste itself in its capacity to harm, would one day disappear from the archive, along with, to use Colebrook's examples, "hate speech, misinformation, revenge porn, propaganda, and all other cultural pollutants."[60] This hope, this ideal of humanity, would be "maximally able and ecological: so attuned to its world that there would be no waste, piling up of techne, no systems that could not contribute to the full and clean functioning of the whole."[61]But this ideal is in tension with the truth that Derrida's deconstruction has demonstrated: that there will be remainder. Which is to say that there will a future.

And if it is the case that Derrida's deconstruction makes the thinking of erasure impossible, to a certain degree, then it would seem to be the case that such a conception of the irreducibility of the coming of the future would complicate attempts to take the threat of extinction seriously on the basis that there is no absolute extinction. Colebrook's insight here is precisely that the possibility of this survival is necessary *as* possibility, but that this possibility need not actualize itself:

> No concept can ever be articulated fully; no event can be exhausted without promising or being haunted by an unforeseeable futurity. The "perhaps" is necessary as a potentiality that may open any closure; but the "perhaps" does not necessarily open, promise, or generate *futurity.* If deconstruction emphasizes the openings, misfirings, anarchic movements, and future promissory dimensions of traces, a

[60] Colebrook 2018, 268.
[61] Ibid.

> counterdeconstruction would be a gentle reminder that such movements are necessarily possible, but not necessary.[62]

This is to say, then, that what the account of survival and futurity provided above misses is exactly what the Human Interference Task Force misses, and, indeed, what Gramsci is so critical of in vulgar articulations of utopic imaginings of the future: that given futures may not come to pass. But Colebrook adds that futurity itself would remain only a possibility. Such a thinking of futurity might be a necessary possibility, perhaps, but it certainly not necessary in the way that readings of Derrida that over-emphasize the future in its coming or its advent seem to contend. Indeed, Colebrook is insistent that such a promise of necessary futurity would amount to an appeal to our future others as our *necessary heirs*, and so "appeals to a presupposed community of ongoing and rational readers who would intuit in the world the same truth, sense, promise, and temporality that one now reads in the present."[63] It is the possibility of break, of erasure, of radical discontinuity that would structure the inheritance and so reception of texts into the future. Which is to say that the precarity of the future rather than its indomitable advent structures the possibility of inheritance.

It is precisely for this reason that, in *Rogues*, Derrida takes such care to take up the regulative ideal and the presuppositions that accompany it. For the regulative ideal here would insist on, as we have seen, a consideration of the possible and so regulates according to an "as if" that posits infinite approximation as instantiation *as if* the future were bound to come to pass, infinitely. If the future is thought here as "an unforeseeable coming of the other," this must be, to Colebrook's point, an unforseeability that is not strictly limited to what is possible, as though there were several options on the table and we were simply too ignorant, finite,

[62] Ibid., 270, emphasis added,
[63] Ibid., 273.

epistemologically inadequate to know which option would come to pass. Rather, this unforeseeability consists in precisely not knowing *whether* the other will come. That any utterance can be made meaningful in *any* context is a point well made in "Signature Event Context" and elsewhere, but the absence that is at the heart of presence (and so, as in "Plato's Pharmacy," would challenge the strict oppositional binary of presence/absence) is the possibility of the absence of any future context in which that utterance *would* be read. That it could be read in any possible context is understood. But that is not to say that any given utterance will be read.

As such, Derrida can write that this im-possibility is necessary for thinking response and responsibility. He writes:

> In the second place, then, the responsibility of what remains to be decided or done (in actuality) cannot consist in following, applying, or carrying out a norm or a rule. Wherever I have at my disposal a determinable rule, I know what must be done, and as soon as such knowledge dictates the law, actin follows knowledge as a calculable consequence: one *knows* what path to take, one no longer hesitates. The decision then no longer decides anything but is made in advance and is thus in advance annulled. It is simply deployed, without delay, presently, with the automatism attributed to machines. There is no longer any place for justice or responsibility (whether juridical, political, or ethical).[64]

If, as we have established, responsibility is enabled by the capacity to respond, which itself is dependent on the structural possibility of reception and inheritance across contexts, then responsibility could not consist in simply repeating or following through on a predetermined rule or law as this would not only fail to account for the differences in context between the

[64] Derrida 2005, 84-5

establishing of that law and the moment of decision in a manner that would be analogous to the way that concrete predictions of particular empirical facts fail to hold in the future and so fail to motivate action in Gramsci's *La citta futura*, but also because following such a law in the place of decision is precisely to erase of obliviate the heteronomy that relates the subject to the future, to the other, and so to decision itself. Responsibility is responding to what cannot be fully appropriated, mastered, or determined in advance. And so to follow a rule in the name of responsibility would be to disengage from the possibilities of response as though that were the height of responsibility.

For our purposes, such an understanding of responsibility in relation to futurity has the interesting effect of essentially folding Gramsci's critique of empirically predictive utopias back over itself so as to become self-critique. Gramsci, we will recall, believed that the present could relate to the future by way of principles that could be inherited and so taken up in new contexts. This solved the problem of relating to the future by means of specific empirical and material instantiations that might fail to hold. And we saw in Chapter 3 how Derrida's understanding of communicability in terms of recontextualization repeated, to an extent, Gramsci's move here. But what this clarification of the Derridean articulation of futurity in relation to responsibility allows us to better grasp is the sense in which principles, insofar as they function as regulative ideals against which historical progress could be measured, nonetheless repeat the problems that arose in trying to relate to the future by way of empirical predictions, namely, the overdetermination of the future as fundamentally resembling the present. We might say that taking the infinitely deferred instantiation of a given principle as the paradigmatic form of relating to our inheritors functions as a messianism, in the sense that we used that term in relation to Fukuyama and the Marx that would promise a classless society as an instantiated and

so historically redemptive end of history. But by insisting on a responsibility that is occasioned by its being condition for and conditioned by the unforeseeable future that is unforeseeable not just in its content but precisely in its possibility, we arrive at Derrida's retention of a thinking of the messianic without messianism—a thinking, that is, of a certain "spirit of Marxism."[65]

Let us conclude this chapter by pursuing this thread of Derrida's fealty (or lack thereof) to Marxism. Derrida's relation to Marx as a reader of Marx will clarify for us, by way of a certain exemplarity, what Derrida takes to be at stake in being an heir.

4.3 Splitting Heirs

We saw above that Derrida provided us with two interpretations of Marxian critique and so relation to the future: the first was that which would appeal to regulative ideals in order to judge the state of the world as a world that is, for instance, going badly. Such a critique, Derrida wrote, "would still remain within the *idealist* logic of Fukuyama" but would "still be fruitful if one knows how to adapt it to new conditions."[66] The second interpretation, however, "would be a question of putting into question again, in certain of its essential predicates, the very concept of said ideal."[67] These two interpretations, together, provide us with "reasons to be faithful to a spirit of Marxism."[68] Derrida predicts, at this point, that such a fidelity to an invoked "spirit of Marxism" will probably make "the Marxists" unhappy, or at least that it will not please them. And here, Derrida was correct. The volume *Ghostly Demarcations* collects a series of essays responding to Derrida's *Specters of Marx* that each take varied approaches to critiquing Derrida on the grounds that his work had done violence to the Marxian textual *oeuvre* and/or that Derrida himself was an unfaithful inheritor of Marx.

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[65] Derriad 1994, 109.
[66] Derrida 1994, 107-8
[67] Ibid., 108.
[68] Ibid.

Michael Sprinker writes, in the introduction to *Ghostly Demarcation*, a collection of responses to Derrida's *Spectres*, that "the commentators in this volume differ about whether Derrida's mode of engaging Marx's texts, and Marxism more generally, is to be commended or condemned (or in some cases simply dismissed). That condemnation predominates was only to be expected, given the political positions occupied by the majority of the contributors, who, it will come as no surprise, tend to be on the Marxist side of the deconstruction/Marxism divide. Of course, it is among the several burdens of Derrida's argument to challenge this very binarism."[69] It is Derrida's burden to demonstrate that the binary that would separate deconstruction from Marxism would need to be challenged. And that the majority of the respondents collected in that volume condemn Derrida's engagement is of no surprise *because* of their political commitments. They are, we are to understand, Marxists *and so* not interested in deconstruction. Derrida *must* demonstrate why such a distinction is not the case. The respondents condemn Derrida for not having received Marx just as Derrida's argument has been that these Marxists have not received Marx.

For these reasons, Derrida, in "Marx and Sons," his response to his interlocutors, characterizes these exchanges as being concerned, above all, with legitimacy and filiation. The question concerns the status of the "true heir," to the extent that Aijaz Ahmad, one of Derrida's critics included in *Ghostly Demarcations*, writes that Derrida asserts "that *he* and his deconstruction, not communists and those who are generally known as Marxists, are the true heirs of Marx, the dead Father."[70]

Such an accusation contains echoes of the circumstances surrounding the publication of "Biodegradables: Seven Diary Fragments," as this text was initially a response to critics of

[69] Springer in Derrida et al 2008, 1-2.
[70] Ahmad in Derrida et al 2008, 91.

Derrida's then-recent "Like the Sound of the Sea Deep Within a Shell: Paul de Man's War." There, again, the subject was deconstruction's heritage—those thinkers and texts that make up the inheritance from which Derrida and others pull to read and write. However, in this case, what was at issue was not a struggle over who was entitled to the self-identification of a true heir but, rather, the accusation of filiation. That is, the question of deconstruction's filiation with de Man and, transitively, with the Nazi collaboration and anti-Semitism that was discovered on de Man's part. There, Derrida's critics look for a sufficiently forceful denunciation of de Man on Derrida's part in order for Derrida and, it appears, for deconstruction in general to assert its independence from such a lineage. And, in the case of both *Spectres* and "Paul de Man's War," Derrida's critics assert that, to quote W. Wolfgang Holdheim, "it is, after all, a matter of making the text say something other than what it says."[71] The accusation is that it is by making a text, be it de Man or Marx, say something other than what it does in fact say, so that Derrida can claim to be the true heir of Marxism or to distance himself from de Man the collaborator while saving de Man, Derrida's friend.

All these accusations and criticisms turn around the figure of the origin. What a text *really* says. Who is entitled to speak truly or authoritatively on behalf of a text or an author. And, for Derrida's critics here, to determine that origin in order to determine whether or not Derrida can be said to have been politically or ethically responsible to a legacy of a text or author.

It so happens that Derrida provides us with an opportune place to begin thinking these questions in his response to Ahmad's insistence that Derrida seeks to establish himself and "his" deconstruction as Marx's true heirs. Derrida writes, in "Marx and Sons":

[71] Holdheim 1989, 789.

> I have never maintained, of course, that "I" and "my deconstruction" (!) were the "true heirs" of Marx the "dead father." I do not believe that. Nor does the question much interest me. Moreover, everything I say makes the expression "true heir" irrelevant to the point of caricature. That pretension is, indeed, the subject of the book [i.e., Spectres of Marx]—I would almost say its *target*. On the other hand, the idea or hypothesis (in fact, the fantasy) that someone is making such an "assertion" or claim (that of being a true heir of Marx) manifestly sets Ahmad's teeth on edge. He watches jealously over the inheritance. He denounces in advance everything he presumes to be a claim to the inheritance whenever it seems to him to come from someone *he* regards as not belonging to the family or lineage of those he tranquilly calls the "communists and those who are generally known as Marxists," ranking himself among them, without a doubt—without, I mean, ever being visited by the slightest doubt on this head. Preoccupation with legitimate descent is a feeling that I do not find within myself. I have even learned to cultivate and publicly defend my indifference to this subject, to explain the "logic" of that indifference, and to go so far as to make of it a kind of ethical and political first principle.[72]

Derrida argues not only that he, contra Ahmad's critique, is uninterested in the question of whether or not *Spectres* represents an effort in discovering or representing a true or authentic Marxism, but that such a preoccupation represents the subject and target of his reading of Marx. And, moreover, that Derrida's own indifference to the question of legitimate inheritance acts as an ethical and political first principle for him. Derrida goes on to claim that he questions the

[72] Derrida in Derrida et al. 2008, 232.

"fantasy of legitimate descent, attempting " to "throw it into crisis"[73] and contrasts this questioning with the obsession with legitimacy that plagues contemporary readers of Marx.

Indeed, we can take up the question of *Specters of Marx* as the question of the return to legitimacy. As if, in the failure of so-called state communism as it existed in the twentieth century, what was needed to work out whither Marxism in the 1990s was precisely a return to Marx. Indeed, Derrida argues that the point of "radically re-examining the premises subtending the relationship between 'Marx,' theory, science and philosophy is to provide the beginnings of an account of *disastrous historical failures* on both the theoretical and political plane, as well as to effect a different kind of *repoliticization* of a certain inheritance from Marx."[74] The point is to rethink a particularly modern welding of the political to the ontological, which is to say, to presence. Which would amount to a rethinking of the return—of what it means to turn away from phantoms and illusions, of what it means to turn or return to Marx.

It is perhaps unsurprising, then, that the figure of the specter is granted prominence of place in Derrida's engagement with Marx. The specter is a figure that implicates return and casts a pall over the present which it haunts. Hamlet is invoked as a figure tasked, by himself or by the ghost of his father or by the times themselves, with setting time right.[75] And so the question for Hamlet is one of doing justice to his time and doing justice to his inheritance: Hamlet "curses his mission: to do justice to a de-mission of time. He swears against a destiny that leads him to do justice for a fault, a fault of time and of the times, by rectifying an *address*, by making of rectitude and right ("to set it right") a movement of *correction*, reparation, restitution, vengeance,

[73] Ibid., 233
[74] Ibid., 221
[75] "Hamlet moreover clearly opposes the being 'out of joint' of time to its *being-right*, in the right or the straight path of that which walks upright. He even curses the fate that would have caused him to be born to set right a time that walks crooked." Derrida 1994, 23

revenge, punishment."[76] In the context of this mission of setting-right as justice, Derrida asks whether one could yearn "for a justice that one day, a day belonging no longer to a history, a quasi-messianic day, would finally be removed from the fatality of vengeance?"[77] It would be undecidable whether Hamlet curses the injustice that requires him to enact vengeance as justice or whether he curses the time in which vengeance, return, retribution is justice. That the time is out of joint, this disjuncture, opens a place for justice not as "calculable equality, therefore not for the symmetrizing and synchronic accountability or imputability of subjects or objects, not for a *rendering justice* that would be limited to sanctioning, to restituting, and to *doing right*, but for justice as incalculability of the gift and singularity of the an-economic ex-position to others."[78]

This is all to say that the question of inheritance is, in *Specters* and beyond, the question of what is given and, moreover, what is given in an articulation of justice. When Derrida responds to critics of his reading of Marx he is accused of precisely not doing justice to Marx. Derrida's insistence that he is precisely unconcerned with his legitimacy as an heir repeats this yearning that could be Hamlet's: the yearning for a doing justice that would not be a return or restitution or that would not inscribe itself as vengeance. In his lack of concern with his own legitimacy as a faithful inheritor, Derrida thinks the opening of inheritance as justice outside of the economy of return. And it is precisely in this mode that Derrida can assert that "the question of justice, the one that always carries beyond the law, is no longer separated, in its necessity or in its aporias, from that of this gift."[79]

It is at this moment that Derrida begins to think the question of justice through Martin Heidegger's reading of the *Anaximander Fragment* in *Specters of Marx*. In the fragment,

[76] Derrida 1994, 23
[77] Ibid. 25
[78] Ibid. 26
[79] Ibid., 30

Heidegger takes up the question of justice, of *dike*, in relation to the given, *le don*, the gift. In his reading of the fragment, Heidegger underlines the sense of *dike* in terms of a joining, adjustment, or harmony, *Fug*, against which is contrasted *adikia,* "what is disjointed, undone, twisted and out of line."[80] Or, in Heidegger's language, "if we resist our own juridical-moral notions, if we restrict ourselves to what comes to language, then we hear that wherever *adikia* rules all is not right with things. That means something is out of joint. But of what are we speaking? Of what is present, lingering awhile."[81]

This "lingering-awhile," *je-weilig*, is the present as transitory and, specifically transitory as coming from the future, from the not-yet, and thereby "towards" the past—which is just to say that the present is taken up here as transitory insofar as it passes from the not-yet to the having passed. A chronology that now, in the present, resituates the origin of the thing in its future.

To do justice to Marx could not mean the simple or pure return to an originary Marx that one could claim in a proprietary manner. Any more than, for instance, transcending a given productive form in society would mean a simple return to a pure use-value uncontaminated by exchange-value. Marx is given in time, as an inheritance, and so promised from a future. What justice one could do or render with respect to Marx would turn on "the irreducible excess of disjointure or an anachrony, some *Un-Fuge*, some 'out of joint' dislocation in Being and in time itself, a injustice (*adikia*) against which there is no calculable insurance" which "would alone be able to *do justice* or *render justice* to the other as other".[82] This is to say that to do justice to the other is to take the other up in a time that is given so as to complicate the figure of the origin.

[80] Ibid. 27.
[81] Ibid. 28
[82] Ibid., 32

Let us turn here to Derrida's reading of Heidegger as it appears in the newly published *Donner le temps II*. There, Derrida begins by thinking responsibility through Heidegger and, more precisely, a thinking of Heidegger in relation to the tradition or inheritance Heidegger himself is embroiled with—a "history of reason, of the legacy of concepts and words, of the very concept of concepts and of language that solicits us here."[83] It is precisely at those moments where Heidegger seems to go either above or to such a depth that he is no longer required to make use of such a tradition to speak of, for instance, "the thing" that Derrida can say it is unclear whether Heidegger in fact says anything different than that tradition. Which is to say that without passing through an explicit thinking of symbolic debt, of the unconscious, or of structural linguistics, Heidegger still arrives, argues Derrida, at a thinking of debt. And the thinking of this debt in *Being and Time* occurs under the heading of *schuldig*, of an originary responsibility-culpability.

Da-sein is *schuldig*. This is to say that Da-sein is originarily responsible-culpible *prior to* or *anterior to* or even just, to use Derrida's formulation *before*, "before every determined failure, every indebting, every inheritance as well, every *traditio* that gives us something, *Da-sein* is *schuldig*, culpable-responsible, it relates to itself in this dimension and it is from this structure that something like law or moral conscience and any debt whatsoever can be determined."[84] The question for us is that sense of that priority, this "before" that characterizes Da-sein as a sort of logical antecedent, a "necessary condition," we might say, for any failure, indebting, or inheritance.

[83] Derrida 2021, 37
[84] Derrida 2021, 38-9

Without originary responsi-culpability, there is no inheritance. Which is just to say that all inheritance is already responsible and guilty: "Tout héritage est coupable-responsable."[85] And to think this originary responsi-culpability without confusing it for *an* origin, Derrida reminds us that "the Heideggarian approach is not exactly that of a genealogy or historical desedimentation, like a return to the origin (non-etymological, perhaps), the *proper* origin, of all these concepts, it is not this although it resembles it and isn't always quite exempt from it."[86] What this *schuldig* is not, then, is something like what *Dasein* really, essentially is after all is said and done. Rather, it names the condition for debt, a condition for return, and a condition for inheritance.

And indeed, does so in such a way as to unsettle a thinking of authenticity. Namely, this thinking of the proper, that which would be most proper to *Dasein*, is already conceived as precisely a needing-to-respond, an originary responsibility that characterizes Da-sein in Da-sein's relation to itself, in and through its relating to that other to which it responds. As Derrida has it, *Eigentlichkeit* here names "a proper way of relating to what is improper."[87] This because that originary responsi-culpability is essentially related, for Heidegger, to a call, *un appel*, *Ruf*. Responsi-culpability is related to the call antecedent to, as a condition of, any particular juridical, economic, ethical or even conscious determination. So that *Da-sein*'s origin is prior to determination. Responsi-culpability is the opening to the possibility of determination, including of any determined responsibility or guilt of which one could have knowledge. And in this sense of absolute priority to any determination or determinable relation, knowledge, or responsibility, *schuldig* thereby relates or even comes from the *Unheimlichkeit*, the uncanny, precisely in the sense that what is most proper to *Dasein* is this call that isn't a particular determination of

[85] Ibid., 39
[86] Ibid. 36
[87] Derrida 2021, 45.

Dasein as itself. *Dasein* is most properly not as return to itself as determined but as the call *to* determination from or to the other.

We can say then that what marks this call which is constitutive of an originary responsi-culpability is precisely "*un appel etrange,*" a foreign or strange call.[88] A call towards that which is not-proper would be that which is proper to *Da-sein*. Here Derrida threads together the figures not just of Heidegger and Marx, but also Freud. In Heidegger's appeal to that which is strange as the condition for Da-sein at its most proper, there is this figure of what is not-at-home in being most-at-home—of the uncanny.

It is this recourse to the uncanny that complicates the figure of inheritance as the ostensibly just or legitimate repetition of that origin—as though there were "a" Marx to whom one must be faithful beyond the exigencies of the time. For instance, in bringing up the complicated welding together of the discursive culture of the political classes, mass-media, and the academy, Derrida asks "What can one do with the Marxist schemas in order to deal with this today—theoretically and practically—and thus in order to change it?"[89] Here, Derrida invokes, of course, Marx's famous articulation that the point is no longer just to interpret the world but to change it. Well, on Derrida's account, Marx's schemas "appear both indispensable and insufficient."[90] Indispensable insofar as Marx represents one of the earliest figures to have taken seriously the "originary indissociability of technics and language" but at once insufficient simply by virtue of the fact that Marx "could not accede to the experience and to the anticipations on this subject that are ours today."[91]

[88] Ibid. 44
[89] Ibid., 66
[90] Ibid., 66
[91] Ibid. 66

As such, the inheritance of Marx rests precisely in a transformation of Marx that would be, by virtue of that transformation, a reaffirmation of what Derrida calls again and again a "spirit of Marx." And, to our point here today, this inheritance would not be *a* given, given in advance, as though its form and content both could have anticipated the reception they might find. Rather, as Derrida writes, "inheritance is never *a* given*,* it is always a task."[92] A task necessitated by the time of its being given, a time out of joint and so haunted by the returns of the past as the promise of a future that resists all attempts to collapse that future into a program laid out as *a* given content or *a* given form. If being is spectral so that we can say that ontology is properly hauntology, as Derrida argues throughout *Specters*, insofar as the present itself is given as the time that is out of joint, that to be is to be haunted which, at the same time, is to say that "*To be*, this word in which we earlier saw the word of the spirit, means, for the same reason, to inherit."[93] "To be" means "to inherit." We might say here that inheritance, as being, conforms to the structure of the gift, of the given, but resists determination as *a* given. Or we might say that inheritance cannot be *taken for* or *as granted.* This is, after all, what it means to take something for granted. To take something up as if it were simply granted or already granted, as if it were already made for you or you were made for it. We may even think that there is something revealing in the English malapropism of "taking something for granite." To take an inheritance as given in advance, as simply or purely given over, is to take it t have the solidity of a stone or to think that that inheritance possesses, as if this could be its own, a resilience or resistance to transformation. The thinking that Derrida resists in his lack of concern for the legitimacy of his filiation or descent from Marx or from a group of Marxists is precisely a resistance to the notion that doing justice to Marx would mean something as pure and simple as a return.

[92] Ibid., 67
[93] Ibid, 67

All of this thinking of inheritance, of the given, and of the uncanny remains abstract, however, until we return to Derrida's insistence on the lack of concern with legitimate filiation as a political and ethical first principle. This lack of concern is especially strange given Derrida's well-known care in taking up a text or an author in precise contexts and to present on those contexts fully or as fully as a given time allows. And indeed, in "Choosing One's Heritage," the first interview collected in *For What Tomorrow…* Derrida goes so far as to say "I have always recognized myself in the figure of the heir."[94] But this heir is not the heir of simply taken up and continuing what has come before. Rather, inheritance here is taken up as the reaffirmation of what has come before, which would mean to choose, freely, to take up and "keep alive" a heritage by "relaunching it otherwise."[95] This is not the choice of "which heritage" one takes up, as though one could simply obliterate or obliviate what has come before. Rather, the choice here is the choice to keep a heritage alive, "by this reinterpretation of what is given in the gift, and even what is given in filiation."[96] The fantasy would be of an inheritance that lives automatically, without the task of the heir to transform. But this would be to put that inheritance to death, freezing it in a time that could no longer be given. And this because one cannot be "only" responsible to or for a past but always, as we have seen, also "before what is to come, and therefore before oneself."[97] With Heidegger, with Marx, with Derrida, with our tradition, our inheritance, and our taking ourselves up as open to the other as the other, the task of the inheritor is precisely "to begin from this apparent contradiction between the passivity of reception and the decision to say 'yes,' then to select, to filter, to interpret, and therefore to transform; not to leave

[94] Derrida and Roudinesco 2004, 3
[95] Ibid.
[96] Ibid., 4
[97] Ibid, 6

intact or unharmed, not to leave *safe* the very thing one claims to respect before all else."[98] That an inheritance cannot be taken for granted or granite means that an inheritance cannot live without this transformation brought about in and through the time that is given to the inheritor. Which is to say that a disinterest in so-called legitimate filiation is not just an ethical and political first principle for Derrida, in reading Marx, or in reading Heidegger. Rather Derrida can assert that "the concept of responsibility has no sense at all outside of an experience of inheritance."[99]

[98] Ibid., 4
[99] Ibid., 5.

CONCLUSION

The introduction to this dissertation began with a story, if not a prediction. It is a story that grounds the risk and hopes of contemporary long term nuclear waste disposal: that there will be heirs, that they will encounter our remains, and that, therefore, they might misunderstand. In the above pages, I have sought to argue three things:

1) Contemporary nuclear waste policy is an exemplary site for thinking the epistemological and ethical problems that follow from views of responsibility that take responsibility to be determined in relation to particular and already determined others with representational interests. Given this presupposition, it follows that, because future generations do not yet exist, we of the present and so currently existing generation could *only* relate to future others *as though* they resembled us.

2) Relating to the future in terms of its resemblance to the present is not only, as we saw in Gramsci, an empirically fruitless endeavour that is defeated the moment that the future, inevitably, fails to conform to our predictions, but, in addition, robs that relation of the possibility of responsibility insofar as it strips that relation of not only alterity but of a conception of the future in general.

3) Following Derrida, I finally argued that inheritance, responsibility, and so inter-generational ethics must be oriented around a conception of the future in its radical unknowability and that it is the possibility not only of recontextualization, but of the failure of such recontextualization to occur, perhaps, that structures responsibility as such, which is to say, inheritance as such.

Together, these three arguments provide us with a critique of contemporary nuclear waste policy that is not strictly concerned with the fact of that waste's capacity to cause harm. Although it remains true that this waste is dangerous and will remain so, the issue with the

articulation of these policies today is that they seek to replicate the durability of this waste as though that would constitute responsibility. If, the argument goes, the waste will survive, so must the repository, and so must the information that makes sense of the responsibility, and so too must the context, culture, and possibilities that enable that information to legible in a way that would relate it to the repository and the waste just as they are so related in the present. The normative upshot of this project is relatively straightforward: Any determination, decision, political action or legislation that takes as its ethical justification the necessity of a pure repetition of its own conditions into the future is not only bound to fail but forfeits the claim to responsibility. This insistence of the necessity of the pure repetition of the present not only thereby would repeat the irresponsibility of the present conditions that created such a remainder in the first place, it would strip responsibility from our thinking of the future. And so I argue, on those terms, that the continued production of nuclear waste by way of the continued use of nuclear fission as an energy source is irresponsible and unjustifiable.

Allow me, then, to end with a story as well. It is not uncommon, in discourse on nuclear energy generally and nuclear waste in particular, to invoke the image of J. R. R. Tolkien's One Ring, the primary plot-propellant in his famous *Lord of the Rings* trilogy.[1] This ring is powerful enough to end the world and, ultimately, corrupts all those that would seek to use it. Further, should it fall into the hands of its creator, the fallen angel Sauron, an age of darkness will descend upon the world. As such, the One Ring has stood in for nuclear weapons, totalitarian power, technological capacity and, in certain cases, for nuclear waste itself. By looking briefly at this example and the manner in which it is taken up in discourse on nuclear waste, we will have one last opportunity to think the opposition between thinking the future in terms of repetition or

[1] See for instance Blowers et al 1991, xxvii;; and Shrader-Frechette 1993, 1; Massou and Gras 2005, 6; and Andrén 2014, 93 for discussions of Tolkien relating the One Ring to nuclear waste.

even restoration of the past, on the one hand, and thinking the future in terms of its unforeseeability, on the other.

The One Ring, then, is too powerful to allow to fall into the wrong hands and too tempting and morally corrosive to keep and use. The only options available to Tolkien's "Men of the West" are "to hide the ring forever; or to unmake it. But both are beyond our power."[2] These choices are presented both as exhaustive and as essentially impossible. Of course, as those familiar with these stories know, the ring is ultimately unmade and the most hopeless future is avoided. Melancholic celebrations follow as those that have died are memorialized and those that must soon depart as a result of this victory prepare their exits. This latter is a key theme in Tolkien's text: Victory comes not only at the cost of the lives lost during the war over the ring, but at the cost of the world itself, or, in Tolkien's parlance, the Age. A designation which echoes Derrida's thinking of the polysemy of "*le temps*" in the French translation of "the time is out of joint." The world, the Age, *le temps*, will have changed and not everything that has survived the war can remain intact.

In the case of nuclear waste—the toxic remainder that accompanies the use of nuclear fission for energy production—the dead-end binary of hiding or destroying the dangerous object in question seems apt. Ideally, this waste would be disassembled, perhaps back in the reactor where it was first produced, and a sort of balance with the natural environment could be restored. That this is the course of action heroically undertaken in *The Lord of the Rings* speaks to that text's tempting veneer of nostalgia for an imagined world before the exigencies of modernity could exert their pernicious hold on the minds of humanity and turn them into minds like those of the technologically-minded mad wizard Saruman, who has "a mind of metal and wheels; and

[2] Tolkien 1954a, 349.

he does not care for growing things, except as far as they serve him in the moment," in the words of Treebeard, the protector of Middle-Earth's most ancient forest.[3] The fantasy is that such a return to a nature undisturbed by war and artifice is possible. As far as the technical capacities of the present are concerned, this nostalgic and ostensibly heroic course of rehabilitation by way of the destruction of the ring is inaccessible—no known technique for disassembling waste stockpiles exists that can be implemented so as to rid us of this waste once and for all.

However, reality overlaps with Tolkien's text in the outright dismissal of the possibility of the alternative—hiding the ring forever. An esteemed council of the wise takes it as a given that the ring could not be hidden for long, especially from one who seeks it. It is only Boromir, the ambassador of an arrogant and irresponsibly led nation that prides itself on its heroic lineage, who suggests that his people might be entrusted to keep the ring safe in perpetuity. In the world we live in, the promise that any nation or, worse still, corporation might endure long enough to guarantee the safe isolation of this long-lived toxic waste ought to be treated at least as sceptically as Boromir's suggestion is.

Outside of these two non-options, what choices remain for us? This waste already exists. What can be done in a world that, unlike Middle-Earth, seems doomed to the continued nefarious impact of its own products and their remainder? Some, like the pioneering scholar of waste disposal and risk, Kristin Shrader-Frechette, advocate for an at-least temporary deferral of such a decision. We ought, on Shrader-Frechette's argument, to allow for more time to develop the technologies that might change our calculus when it comes to waste disposal and, in the meantime, refrain from contributing to the accumulation of more of this perhaps unmanageable

[3] Tolkien 1954b, 90. This is also the reading offered by Mats Andrén in Andrén 2014, 93. There, Andrén argues that the deep geological disposal of nuclear waste takes us further from a balance between human life and nature ostensibly endorsed by Tolkien. I will argue here that Tolkien is more productively read against the grain of this imputation of a primitivist return to nature.

waste.[4] However, it is clear that such a strategy replicates the logic of permanent disposal in the sense that it articulate a sense of responsible action that is grounded on a future generation—be it one or one hundred generations into the future—discovering the solution for those of us who have benefitted from the use of nuclear fission for energy production. Deferral is to make future generations responsible for the present's responsibility, as if this deferral were the height of responsibility in the present.

At this point, one might simply argue that Tolkien represents a fundamentally inadequate vision of responsibility that is endemic to the project of the Western thought of which he, Oxford Professor of Anglo-Saxon, was so eminent a representative. And on a reading of *The Lord of the Rings* that sees the destruction of the One Ring as the culmination of a project of return to a harmonious past, this argument is compelling. However, I would like to blaspheme against Tolkien the anglophile and suggest that the letter of his text presents us with some helpful clues to reorient our thinking of responsibility and directs us towards two thinkers that represent, in different ways, a Continental rejection of the bucolic English countryside as the *telos* of political action (for what is the destruction of the Ring, the literal locus of totalitarian potential if not a political action?): Antonio Gramsci and Jacques Derrida.

Let us recall that the story of *The Lord of the Rings* takes place in the Third Age of Middle-Earth—an age marked by decline, division, and the gradual ascension of totalitarianisms whose goal is world domination. And let us recall that the destruction of the One Ring does not return the inhabitants of Tolkien's world to the beatific primitivism of the First Age nor the technological and cultural heights of the Second Age. Rather, the destruction of the One Ring ushers in the Fourth Age. The Fourth Age is characterized by the slow withdrawal of the

[4] Shrader-Frechette 1993, 2.

fantastical from Middle-Earth. Human beings are now ascendent. Elves and wizards disappear across the sea. And the most clearly articulated stand-ins for Tolkien's love of nature and balance, the hobbits, begin their long march towards disengaging entirely from the world of human beings. This is all to say, the culmination of *The Lord of the Rings* is not a return to a harmonious past, but the acceptance that the future will be different from the past, because the past could not be saved. The arc of the plot of Tolkien's tale is not to learn to destroy clearly demarcated evil and live idyllically once more, but to learn to dare to hope that an unknown future is preferable to annihilation. And, indeed, the people of Middle-Earth are marked by the ways in which the events of *The Lord of the Rings* shift their perceptions of what it means to inherit a past of error, injury, and destruction. Erstwhile hero Frodo Baggins suffers a wound early in the first part of *The Lord of the Rings* and destroying the Ring does not heal this wound. Rather, the wound endures and, as a result, Frodo, too, must eventually leave Middle-Earth behind.

This is to say that *The Lord of the Rings*' internal history tells the story not of return, nostalgia, and conservation, but of the inextricable march of time, the irreversibility of change, and the necessity of transforming rather than attempting to repeat inheritance in its purity. What is at issue in the choices made by Tolkien's protagonists is not the salvation of the elves, the nobility of (some) human beings, or the ostensibly timeless good of the lifestyle of hobbits, but the very possibility of a future.

It is not a coincidence that the readings of Tolkien's tale intersect with discussions of intergenerational responsibility to the extent that they have. And it is similarly not a coincidence that when Tolkien is invoked here, it is often as an avatar of conservative nostalgia. The discourse on intergenerational responsibility is, largely, dominated by the same impulse. Central

to most invocations of intergenerational responsibility, especially in the context of so-called "environmental issues," is the question of whether or not we ought to aspire to return to a more perfect past or reject that compromised past whose actors were all too complicit in such overwhelming violence. And it is in the works of Antonio Gramsci and Jacques Derrida that we see two of the most sustained and insistent efforts to think futurity with the understanding that the past can neither be destroyed nor repeated. Not once and for all, at least. Or, rather, more than one once and for all, again and again. *Plus d'une fois pour toutes*.

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