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# Research Practice

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Research for Practice, 2023-24

## Stratigraphy of Humanity

### Personal Exploration into Coexistence between Earth and Humans

Keywords:

Geology, traces, human, intergenerational matters, coexistence, art & science

Student ID: 23046236

Programme of study: MA Multi-disciplinary Printmaking

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Words count: 4042



## Introduction

My approach investigates how time expresses itself in geology as well as in human lives, in the idea of palimpsest. My deep interest in the subject of time and the traces that it leaves behind started with a pursuit of ancestry. I questioned the intergenerational transmission and the enduring influence of our past experiences on our present selves. It gradually expanded into a profound exploration of our universal history and led me to a greater interest in geology. My work is inspired by the artists Adam Jeppesen and Julian Charriere who both explore the interrelation between humanity and Earth through the concept of deep time. Indeed, art plays a critical role in the awareness of society regarding pressing matters. Thus, a pioneer non-profit organization was founded in 2014 by Alice Audouin to increase knowledge of the relationship between art and major environmental issues. Since 2017, I lived in three different countries. While composing this essay, I considered writing about various locations I am connected with. However, I chose to focus on the South of France and investigate how my experience of being brought up in between the South and North of France profoundly shaped my practice. I will explore the concept of tacit knowledge (Bell, 2023) and how my constant meetings with the places are embedded in me.

This essay will first focus on the importance of emotion in earth science and the power of activism with the support of scientists and writers, Wadham (2022) and Magnason (2021). It will then address the importance of long-term thinking through intergenerational matters supported by Ord (2020). Next, it will closely examine the change in the land through the years and its impact on artistic practice. In this section, I will analyse my approach and compare it with other artists. Finally, this essay will focus on a new relationship with time for a deeper understanding of humanity's interconnectedness with the natural world. I will draw inspiration from the scientist Marcia Bjornerud (2020). This essay will embrace the concept of the rhizome as well as the affective methodology (Gibbs, 2015). It also includes the autoethnography method introduced by Shawn Sobers during our lectures. Furthermore, it will include scientific and academic texts which influence me.

### I. The importance of an emotional connection.

If you were to ask me which mountain I feel most familiar with, I would surely answer the Rocher of Roquebrune, situated between the cities of Draguignan to the northwest and Fréjus to the east. Draguignan is where my grandmother has lived since I was born. At least twice a year, my family and I would travel there. I consider it to be my second home. Since moving abroad and exploring my connection to my homeland, I no longer solely identify as being from the northeast of France. Instead, I emphasize that my family is spread between the North and the South, and so am I. Although my activities differed in each location, I undoubtedly grew up in both. The North, Nancy, is where I primarily lived and studied. The South, Draguignan, is where I would visit my father's side of the family, maintaining a connection with my close relatives. I know nothing about the schools, nor have I voted for the department, but the feeling of the place, the scent of the trees, and the warmth of the wind are embedded in my body. I remember the long journeys by car with my family leaving our hometown in the darkness of a cold evening. I would still be half asleep as my parents would wake me up thirty minutes before to get into the vehicle. There was this child innocence of letting yourself be. The memory I can still feel on my skin is the caress of the sun through the window as soon as we started to reach the South of France. In particular, the stunning burnt view of the mountains with the sun blazing on their stones; its typical vegetation is made of pines and kermes oak. Also, the first scent, imbued with the fragrances of pine and thyme, that greets you upon exiting the car is inscribed on my memory. There is this warmth in the wind embracing your face. Furthermore, I recall the initial sounds of the cicadas when we arrived around Valence, strident but melodious. I knew I was home. It gives me the feeling of belonging and familiarity I can not find anywhere else.

All these emotional connections associated with my land are advocated for by several artists, writers, and scientists. Jemma Wadham expresses an emotion that resonates with me when writing:

"When I'm with them, I feel like I'm among friends. My return to them in this round-the-world

voyage heralds a return to my old self. A kind of personal re-wilding - borders dug up, earth left untilled, seeds of ideas allowed to drift freely in on the wind and to take root to sprout new, vibrant green shoots. A story of glaciers and people, their histories and mine, entwined. It is, in many ways, a love story." (Wadham, 2021, p.16)

In the article *Memories for the Future? An Ecocritical Reading of Andri Snær Magnason's On Time and Water. A History of Our Future (2019)*, Mose writes that Wolfgang Lucht, scientist and professor, meets Andri Snær Magnason, an Icelandic writer strongly involved in the defense of the devastation of Icelandic nature:

"Lucht assumes that Andri would be even more tempted to write about this issue – the most urgent of our time, the global climate crisis. Andri, however, declines by saying that it should be left to the scientists themselves because they know, to which Lucht answers, "People don't understand numbers and graphs, but they do understand stories. You can tell stories. You must tell stories." (Mose, 2023, p.362)

To elaborate, this is what Jemma Wadham attempts in her book:

"Oh, there goes another glacier, how sad! Do we ever act purposefully to save something if we experience it only through dry facts and figures, but lack a connection to it in our hearts? [...] So my intention is to introduce you to the glaciers, to share the emotional connection that I have fostered with them during three decades of research." (Wadham, 2021, p. XV).

Altogether, Wadham and Magnason express their experience and deep connection to our land through their words and family history. This is what I attempt to convey in my visual practice and I will investigate it at a later stage in my essay. Complementary to this, Trexler and Johns-Putra (2011) examine the significance of climate change in literature from a research perspective. They assert that climate change fiction (also called *cli-fi novels*) has witnessed a significant increase in the number of such novels over the past two decades. In summary, this research supports the necessity to convey an emotional connection to dreary scientific facts, numbers and graphs. In conclusion and based on the aforementioned points, I firmly assert the power of art in conveying a message and fostering collective awareness. I believe that a unified consciousness is within the realm of human capabilities. However, given numerous scientific studies have demonstrated the human brain's incapacity to comprehend the concept of deep time (Ord 2020), alternative approaches must collaborate with scientific facts to anticipate powerful impacts. For example, the civil rights, women's suffrage, and environmental movements have demonstrated that activism (or artivism) can bring about significant social, political; economic, and environmental changes. Therefore, I believe that through arts, public speeches, or the intergenerational transmission of values, change and awareness can occur.

One can argue that this is our responsibility to our descendants. Ord (2020) affirms that "our duties to future generations may thus be grounded in the work our ancestors did for us when we were future generations." (Ord, 2020, p.42) Moreover, he proves how "humanity's remarkable success has relied on our capacity for intergenerational cooperation: inheriting from our parents, making some small improvements of our own, and passing it all down to our children." (Ord, 2020, p.49) To support this, he insightfully compares our century to that of our ancestors:

"We have less fear from disease, from hunger and from each other. [...] We have greater freedom [...] Many of our children have access to opportunities that would astound our ancestors [...] yet human life, for all its joys, could be dramatically better than it is today. [...] While from year to year it can be hard to tell if things are getting better or worse, on the scale of centuries we have seen a clear decline in persecution and intolerance, with a marked rise in personal freedoms and political equality." (Ord, 2020, p.236)

Some may question the value of protecting humanity and our long-term future. How relevant is it to care about our land as it will certainly recover —with or without us? Earth has proved to us already its capacity to rise from the ashes. During its *Snowball* era, when the planet's surface became entirely frozen, major extinctions were driven, but microbial organisms managed to survive, leading to the perpetuation of life on Earth. This global glaciation attests to the resilience of the biosphere. To go back to what I said earlier, the counter-argument from the concept 'population ethics' implies "that there is no reason to avoid extinction stemming from considerations of future generations—it just doesn't matter whether these future people come into being or not." (Ord, 2020, p.47) As a response, Ord (2020) discusses the assumptions regarding the value of future generations and the importance of safeguarding not only the future but also our past achievements, our moral beings, and our cosmic significance. This argumentation leads to a satisfying conclusion.

In this section, the importance of emotional connection to our land, along with our intergenerational responsibility, has been explained. The chapter that follows moves on to consider the traces and memory of places, combined with my artistic practice.

## II. Time Capsule, traces and memory within artistic practice.

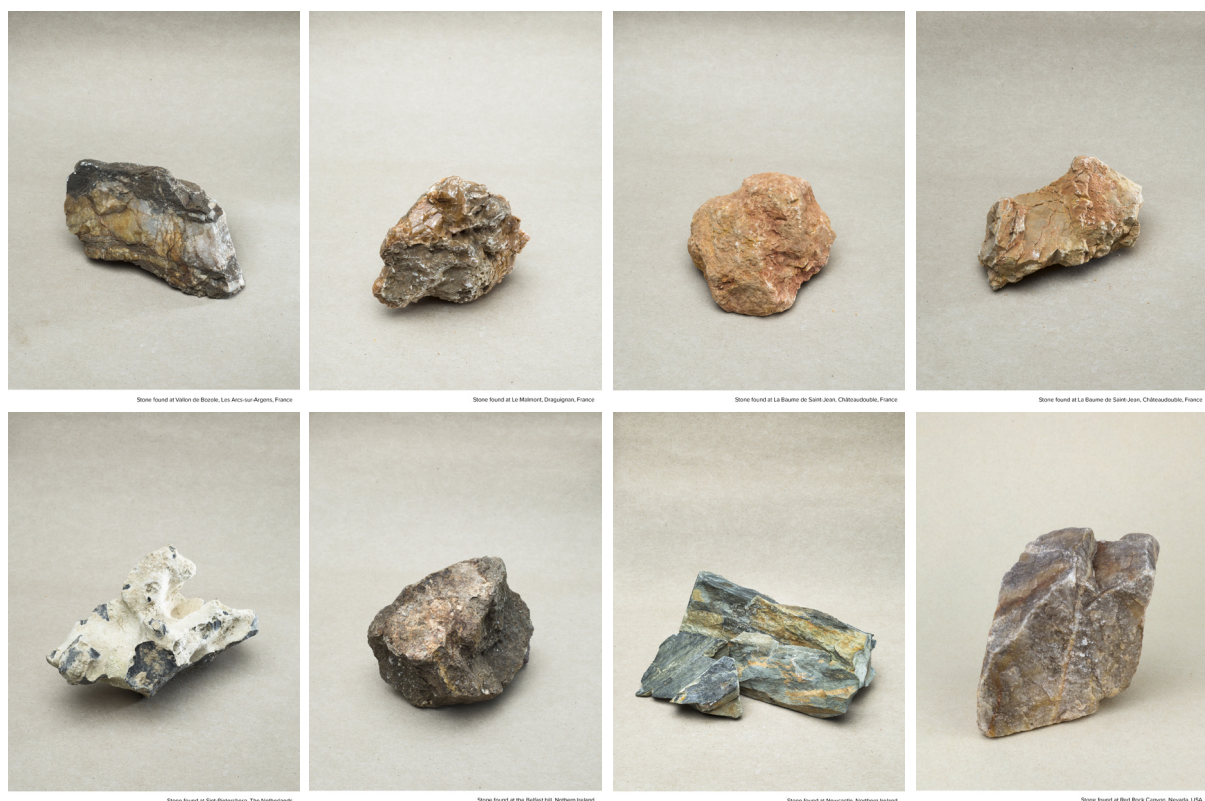
In 2003, a devastating fire occurred in a mountain range called Massif des Maures. It is crossed by a long B road which has always been our morning trip to the beach. This was an unmissable encounter with the Mediterranean Sea. The road runs alongside the bright yellow and strong perfume of mimosas. These flourish from January to March. Our travels were interrupted by stops to pick the yellow ball flowers. My grandmother would knock at my parents' bedroom door in the morning. As kids, we would hate the early awakening, often falling asleep again as soon as possible. However, I recall the extremely sinuous road before its renovation, following the wildfire destruction of the forest. At the age of nine I witnessed the transformation of the massif. Repetitively, for 30 years, my eyes observed the massive landscape unfolding before me. It was an enormous green pine forest scattered with a yellowish hue on the stones that surfaced within it. Indeed, the road goes along the rocher of Roquebrune. What seemed lifeless was bustling with abundant life. You could sense the earthy scent of dry soil and decaying leaves, evidence of the forest's rich ecosystem. Yet, due to a tourist's quick act of inadvertence, a lot perished with more than 8,000 hectares of forests destroyed. French news would state it as "one of the biggest fires in recent years" which will "take decades to recover". Unfortunately, it did. Today, two decades later, the darkness of the ashes disappeared. The landscape, once grey and lifeless but partially preserved by firefighters, is now a memory only accessible through the internet. Even so it may seem to have vanished from the surface, but the event has been engraved deep into the Earth's crust.



Mara Cozzolino, *Memento 45.1611, 7.0283*, 2021. Mokuhanga - Japanese woodblock

So what about our collective memory? My project *Portrait of a Stone* comprises a collection of artefacts I picked up during my hiking along with their location. I regard and photograph them as if they were individuals, each with its own story to tell. What would remain if the same destructive fire as the one in the Massif des Maures were to happen in all the places on Earth we have visited? How many substantial traces would be preserved? Undoubtedly, our memory would retain a record. However, it may vary in accuracy and subjectivity depending on individual perceptions and experiences. The artist Cozzolino discusses her series of prints *Memento 45.1611,7.0283* as "something that needed to be done in order to process my grieving over the burnt land. I feel like I accomplished something in helping remember what happened." (Gribbin, 2023, p.32). Gribbin asserts "the process of collecting and processing pigment, and experimentation creates a depth and a memory within the print works, centred of a specific time and place." (Gribbin, 2023, p.31) Along the same lines, I seize a moment by picking up a stone, stopping any external alteration. Therefore, each stone carefully chosen during the collection process, encapsulates a preserved moment akin to capturing memories. *Portrait of a Stone* is an observation of a precise moment and site. Moving onto the artist's practice within the context of the land and global warming.

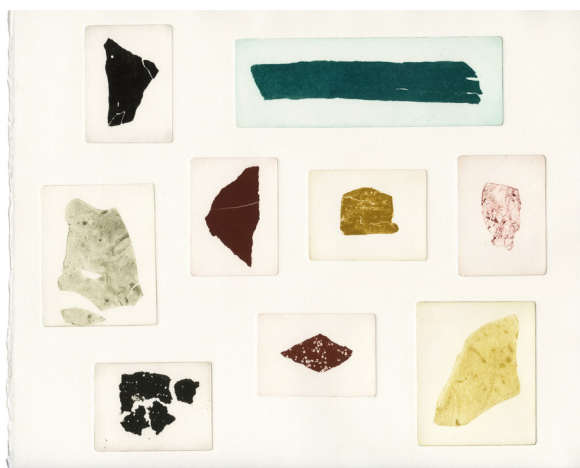
Destructive fires are occurring with increasing frequency and will continue to do so as a result of climate change. The Fifth Assessment Report (2013) clearly illustrates the correlation between the increase of wildfires, climate change, and human activity. It states that climate change is increasingly influencing wildfire patterns in conjunction with human activity. Future climate variations are anticipated to worsen the likelihood and intensity of wildfires in various ecosystems. An important critical examination of the perception of wildfire and its impact is presented in the research by Doerr and Santín (2016). Indeed, the authors explain that "the 'wildfire problem' is essentially more a social than a natural one" as we inhabit fire-prone regions without adapting to their ecosystems. In other words, they advocate for a more informed understanding of wildfire dynamics to facilitate a sustainable coexistence with fire in a changing climate. This suggests redefining the ability of human societies to live alongside the natural processes of fire. Expanding on this information, the shift in the exploration of the forests during summer in southern France illustrates the need to coexist with weather fluctuation. Shortly after the wildfire of



Sorriaux, *Portrait of a Stone*, part of the series "Yes, I am Palimpsest too", 2019

2003, the danger of intense heat waves forced the French departments to prohibit all hiking. Although I still recall the freedom of walking in such a grandiose yet harsh scenery. The sunlight filtered through the leaves allowing us to walk in the gentle warmth of the shade. If the season was ideal, we could collect blackberries or figs under the yellow-tinged transparency of the leaves as they were struck by the sun. The vegetation differs from what you find in the North of France where the landscape is lush green, soaked from the rain; blanketed in snow, and tinged with mud. In the South, the colours resemble those from a burnt palette. The grass takes on a yellow hue, merging with the earth's tones; the trees hold a dry, dark brown hue in their trunks and twigs. Yet, both environments resonate with life for me. However, the weather change has impacted my practice. I cannot hike during summer in the South. Instead, I have to rethink my trips, exploring nature during other seasons. The constant visits establish a profound connection with my ancestors and transform my relationship with the landscape. Today, my experience of the land and within my artistic practice also evolves.

Referring back to my project *Portrait of a Stone*, I then question what remains inside of the stones in the works *100µm/2550LU* and *Traces 36.1466175, -115.4292437*. How much historical information is captured in the geological components of each rock? To visually research this, I collaborated with a scientist in Amsterdam. Sliced into thin sections, as a geologist would do, these stones are negative to create new images. This process reveals unique compositions, allowing varying amounts of light to pass through. Indeed, at 100 microns (µm), equivalent to the diameter of a piece of hair, we transformed robust stones into fragile and delicate objects. Thus, the transparency of these rocks raises an intriguing question: just as a geologist unravels Earth's secrets, how does this stone metaphorically enable us to peer through time? They are exposed to UV light – invisible to the human eye – and daylight – visible. In this way of exploring both the visible and vanishing aspects, we unravel long-term histories and the Earth's narrative. Each print from a stone reflects the memory of its origin and the impact of human presence on the land.



Sorriaux, *100µm/2550LU*, 2023, photopolymer gravure.



Author personal collection. Left: thin section from Red Rock Canyon, Nevada, USA. Middle: thin section from Bad Bentheim, DE. Right: thin section from La Baume de Saint-Jean, Châteaudouble, FR



Sorriaux, *Traces 36.1466175, -115.4292437*, 2024, photograph, thin section from a stone and lithography (UV).

Poetically, professor Marcia Bjornerud expresses "The Earth is speaking to us all the time. In every stone, it offers an eternal truth or good rule of thumb." (Bjornerud, 2020, p.179). In other words, time may seem to erase the past while it remains intertwined with the present and future. In the following quote, she introduces the concept of "timefulness" which will be developed further in the next chapter:

"In many ways, geology is about understanding "wyrd" - the ways that the secret stories of the past hold up the world, envelop us in the present, and set our path into the future. The past is not lost; in fact, it is palpably present in rocks, landscapes, groundwater, glaciers, and ecosystems." (Bjornerud, 2020, p.161)

"Timefulness" or "wyrd" are new relationships with time. This leads me to my next point which is our coexistence with our timescale. This chapter has explored personal experiences, artistic endeavours within environmental changes, and reflections on the Earth's narratives with its human interactions. The next chapter will consider new ways to think about time.

### III. Witness through the years.

For twenty-nine years I had constant meetings with France Southeast. I can recognise several changes through the years. One of my earliest memories dates back to the age of 4 to 11 and concerns the winter snow in my hometown. Supported by family album images, the Christmas holiday was abundant in snow. From my bedroom, I could see my dad scooping it off the garage path, a usual rhythmic melody. I knew where he was from the sound of the shovel scratching the ground. White landscape, comforting cold, and the beauty of the falling snow are how I always remember year-end festivities. It seems this environment persisted until 2005 before slowly disappearing. Nowadays, the inhabitants' worries are not about the amount of snow and the ability to travel, but rather whether they will be graced with snow. Importantly, studies have established the urgency of our climate (IPCC, 2024). To better comprehend my hometown variations in temperature I will compare two sets of data from periods of my life, obtained from the French non-profit organisation *Infoclimat*. Born in 1994, I will compare the weather from December 1998 in Lorraine with the last time I experienced it, December 2023.

The minimum temperature in 1998 was  $-0.2^{\circ}\text{C}$ , with extremes ranging between  $-17^{\circ}\text{C}$  and  $-12^{\circ}\text{C}$ . The minimum temperature in 2023 was  $3.7^{\circ}\text{C}$ , with extremes ranging between  $-11,9^{\circ}\text{C}$  and  $-5^{\circ}\text{C}$ .

A caution is due here since the comparison lacks sufficient data to consider the result as an average deviation from seasonal norms. As emphasized at the beginning of this essay, I aim to foster an emotional connection to daunting data to better relate to our long-term future. My paper does not establish scientific facts, but I defer such matters to experts. However, this example provides an insight into the temperature experienced by inhabitants. The decrease below zero degrees Celsius resonates with my experiences. As explained in the introduction, it is clear that all humans witnessed change through the years as Magnason (2021) expressed in his book:

"The foundational changes in the nature of water on our Earth [...] to a degree not seen for fifty million years. All this will happen during the lifetime of a child who is born today and lives to be my grandmother's age, ninety-five." (Magnason, 2021, p.9)

Indeed, my nibling or future children will grow up with ever less memories of snow. What experiences from your childhood can you ponder that have disappeared throughout your lifetime? What are the events your relatives are fortunate to witness but might be the last generation to do so? To apprehend the future's vastness, Magnason (2021) narrates asking his daughter the year she will be the same age as her great-grandmother. He then questioned the approximate year her children would also be it. My niece



is five and will be ninety-five in 2113. Her child would reach this age around 2202. In three generations, we effectively time-travelled 200 years. It illustrates how close our long-term future is. I encourage you to try. Finally, the earlier discussion on "timefulness" can be developed here. Instead of being grounded in thinking about *Now* as separated from the rest of the time, Bjornerud (2020) advocates for "polytemporal" thinking or "the practice of timefulness"; common to Earth scientists dwelling in geologic time:

"I suspect that our self-imposed exile from it [the past] is the source of many ills [...] rooted in a distorted sense of humanity's place in the history of the natural world. People would treat each other, and the planet, better if we embraced our shared past and common destiny, seeing ourselves more as lucky inheritors and eventual bequeathers rather than permanent resident of the Earth estate. In short, we need a new relationship with time." (Bjornerud, 2020, p.161 - 162)

The strength of such an approach is to foster a new relationship with time that transcends the present and embraces the vastness of geologic time. It reconnects individuals with the past so they can recognize their place within the larger narrative of Earth's history. This shift in perspective has the potential to address environmental challenges and existential crises by promoting a deeper understanding of humanity's interconnectedness with the natural world. Ultimately, it encourages people to see themselves as responsible for preserving and passing on its legacy to future generations.

## Conclusion

This essay has advocated for the importance of emotional connections associated with the land in the defense of urgent issues of our time such as the global climate crisis. It has significantly proved that stories must be told for people to understand numbers and graphs. This essay has strongly argued the power of activism to convey a message and foster collective awareness. Additionally, it has established how to go beyond the human's brain incapacity to comprehend the vastness of geological time. Indeed, the pieces of evidence presented have shown how profoundly it can shape our understanding of the world around us. Then, supported by Ord (2020), this essay has ascertained the duties towards our descendants to elaborate intergenerational cooperation. Thus, humanity's success is rooted in the work that ancestors do for future generations every century. Moreover, it has responded to the counter-argument of the 'population ethic' and has demonstrated the legacy we will safeguard by protecting our long-term future. Next, this essay has examined the resilience of the biosphere in extinction risks on Earth and outlined ideas on how humanity should benefit from it by pleading for coexistence with the ecosystems, such as wildfires. After that, it has been proved the deep interconnectedness of humanity and its land by witnessing weather changes such as snow in the North of France and the increase of heat in the South. Wadham (2022) and Magnason (2021) have provided further evidence on glaciers and water to critically examine the changes in the earth. In this way, it has been researched the impact of these changes on artistic practices through my work *Portrait of a Stone* to one by Cozzolino, *Memento 44.1611,7.0283*. Finally, this essay has introduced new ways of thinking the time. Bjornerud (2020) introduced "timefulness", diverging from the non-modern way of thinking *Now*. She established the concept of "polytemporal" to bring our separation from the past to an end. Thus, this essay enlightened us about time being embedded in the world and how we must reconnect with it. Indeed, the past is not eradicated but intertwined with the present and future; this is part of the argument to safeguard our legacy. Doing so is a hope of preserving our natural world and passing on legacy to future generations, so they can continue to improve it, as our ancestors allowed us to do.

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