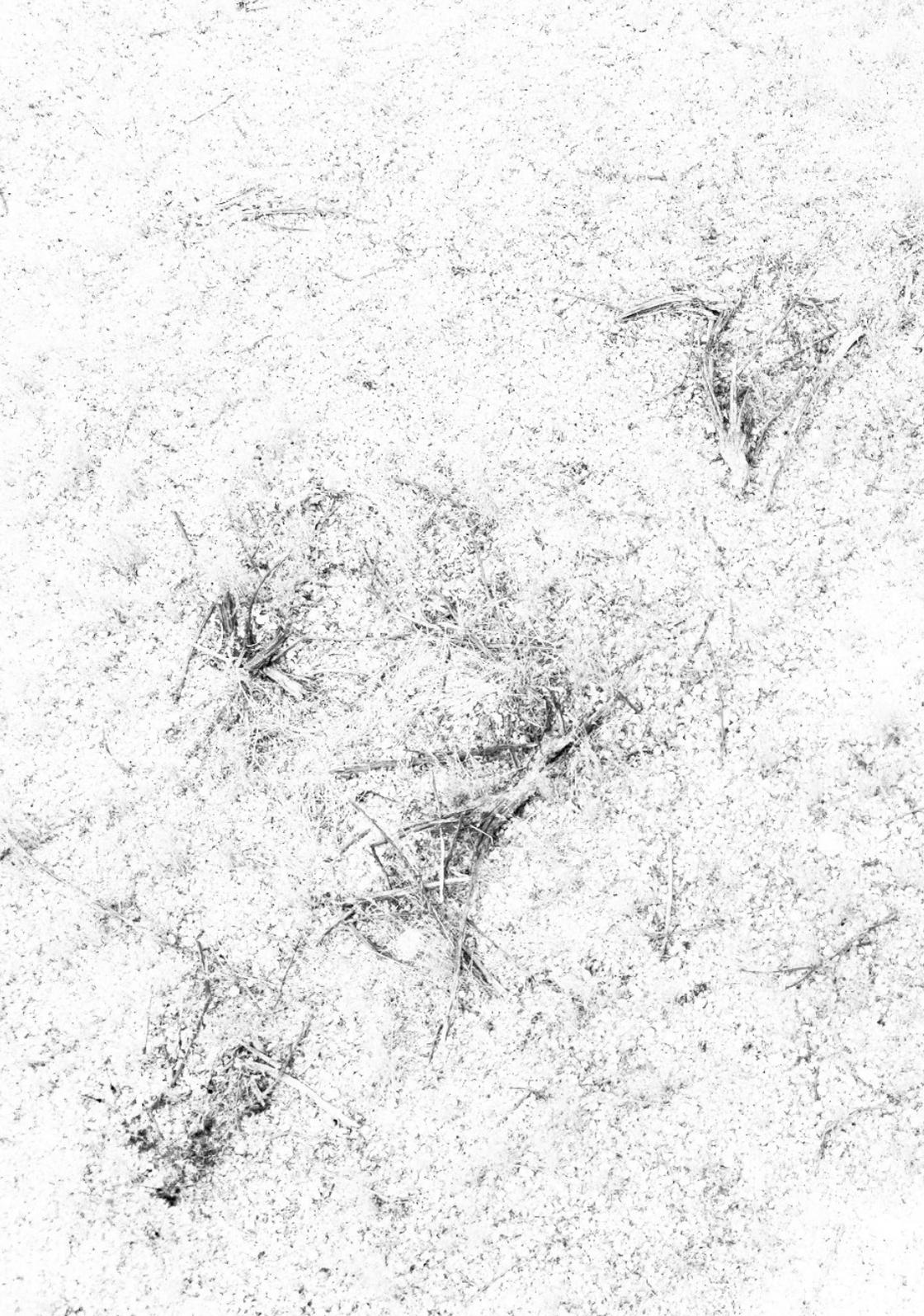


DUST  
& Shadow

reader #1



Dust is everywhere because its source is everything. Its most remote origins in time and space are the Big Bang, collapsing stars, and the dark line across the center of the Milky Way, which, according to astronomer Donald Brownlee, "is a line of dirt perhaps 65,200 light years across, and  $3.832 \times 10^{17}$  miles long." Here on earth, dust comes from everything under the sun: minerals, seeds, pollen, insects, molds, lichens, and even bacteria. Its sources also include bone, hair, hide, feather, skin, blood, and excrement. And things of human fabrication, too numerous to mention, also cover the earth and all the atmosphere with dust.

—JOSEPH A. AMATO, DUST

Humankind is flickering, displaced from itself, ecstatic, rippling and dappled with shadows. Shadows made not only by some other entity interacting with it, like the sun through the trees, but shadows that are an intrinsic part of the thing

—TIMOTHY MORTON, HUMANKIND

[L]et us take down one of those old notebooks which we have all, at one time or another, had a passion for beginning. Most of the pages are blank, it is true; but at the beginning we shall find a certain number very beautifully covered with a strikingly legible hand-writing. Here we have written down the names of great writers in their order of merit; here we have copied out fine passages from the classics; here are lists of books to be read; and here, most interesting of all, lists of books that have actually been read, as the reader testifies with some youthful vanity by a dash of red ink.

—VIRGINIA WOOLF, HOURS IN A LIBRARY

The chapters build an open-ended assemblage, not a logical machine; they gesture to the so-much-more out there. They tangle with and interrupt each other—mimicking the patchiness of the world I am trying to describe. Adding another thread, the photographs tell a story alongside the text but do not illustrate it directly. I use images to present the spirit of my argument rather than the scenes I discuss.

—ANNA TSING, MUSHROOM AT THE END OF THE WORLD

You know what the issue is with this world?

Everyone wants some magical solution to their problem and yet everyone refuses to believe in magic.

—LEWIS CARROLL

*There is enough here to sustain, but no lush overabundance of life. Much like the dark night of the soul, the desert gives little comfort, almost nothing. There is a scarcity which just barely supports life. This almost nothing is also just enough, a desert which will sustain and transform life upon it.*

—RON BROGLIO, ABANDONMENT

*Vast is the kingdom of dust! Unlike terrestrial kingdoms, it knows no limits. No ocean marks its boundaries. No mountains hem it in. No parallels of latitude and longitude define its boundless areas, nor can the farthestmost stars in the infinitudes of space serve other than as a twinkling outpost of a realm as vast as the universe itself.*

—J. GORDON OGDEN, THE KINGDOM OF DUST

02017-05-17 to 02017-05-27

Sonoran desert. A place of desiccated time, layered time, geological, vegetal, human time. Time kneads the Earth's crust into deep folds, cracks and canyons. Plants lay dormant through cycles of drought or grow slowly for centuries, bursting into blossom after the first rains. Humans come and go. Blown through the ages like tumbleweeds. Things don't really decay here. They shrivel, dry up or slowly rust, yet remain present, as they gradually erode into dust. A thick, dusty atmosphere of things that were, things that are and things that might be. Densities and intensities coagulating on a larger than human scale, illuminated by stark light or lurking in the deep shadow.

The dust from the big "beyond" blows across the streets on the hot wind. It covers all surfaces, forms a thin crust and penetrates everything. A reminder that the heart of darkness is our neighbour. Hidden beneath otherworldly rocks. A vast expanse with "outstanding opportunities for solitude" protected by the Wilderness Act and its own indifference. A vastness that remains incomprehensible despite the many attempts to focus and frame it, from early Hohokam sites to contemporary land art.

*A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.*

—THE WILDERNESS ACT, 1964

# DUST

Biosemiotics came into being as various scientists and scholars in both semiotics and the life sciences realised that information and communication systems involving living beings could not be understood simply in terms either of mathematics and engineering, or in terms of signals alone. Information is only fully meaningful when it is capable of in-form-ing, or changing the form of, something – whether shape, development, behaviour or idea. Signals imply something mechanical (for example, that this chemical or word always automatically causes this response). However, as became clear to many molecular biologists, ecologists and biological developmental systems scientists, let alone to people working in the fields associated with human communication, representation and interpretation (from anthropology to psychology to sociology, literature and the arts), neither cells, nor bodies, nor ecologies nor poems consist of or call for automatic responses. Although much semiosis settles into habit (meanings can't work without some stability and capacity for repetition; communication depends upon it), meanings are the result of a process of discovery and interpretation. Life is process, and all organisms must be capable of change in response to changing conditions.

—WENDY WHEELER, IN OTHER TONGUES

Instruments that made good travelling companions - those that were small, light and versatile - were favoured, like the portable barometer that could be fitted onto the head of Humboldt's walking stick. (...) Humboldt's instruments not only extended his senses, heightening his perceptual faculties and submitting sensory phenomena to mathematical scaling; they were embodiments of his relations with others and his place in the natural and social world. (...) The well-tempered instrument, like a reliable but spontaneous human, oscillated within a specific range of values, passive in receiving, active in transmitting its phenomena.

—JOHN TRESCH, ROMANTIC MACHINE

The world speaks to us in material forces.

We need (to become) human receptors and listening devices. Practicing the craft of silence. Heterogeneous hearing. Tuning to the world. There are others here listening too. An incomprehensible historical grammar of rock formations. Alien plant morphologies with antennae into parallel presents or alternate futures. The rustle of slithering reptiles, the buzz of invisible insects and thick webs woven by secretive arachnids. We do not attempt to understand or interpret.

*I dream of a hard and brutal mysticism in which the self merges with a non-human world and yet somehow survives still intact, individual, separate. Paradox and bedrock.*

—EDWARD ABBEY, DESERT SOLITAIRE

Thalience is an attempt to give the physical world itself a voice so that rather than us, asking what reality is, reality itself can tell us. It is the discipline that chooses among multiple successful scientific models based on which ones best satisfy our human, aesthetic/moral/personal needs. In other words, given two or more equally valid models of the universe, thalience is the art of choosing the one with the most human face. It is the recovery of the natural in our understanding of the Natural. (...) thalience would use objective truth as an artistic medium and merge subjectivity and objectivity in a creative activity whose purpose is the re-sanctification of the natural world. To believe in an uplifting and satisfying vision of your place in the universe, and to know that this vision is true (or as true as anything can be) would be sublime. Thalience would be an activity worthy of post-scientific humanity, or our own biological or post-biological successors.

—KARL SCHROEDER, THALIENCE

A black and white photograph of a gnarled tree trunk, showing intricate textures and shadows. The wood is heavily textured with deep grooves, knots, and a mottled appearance. The lighting creates strong highlights and deep shadows, emphasizing the ruggedness of the bark. The background is dark and textured, possibly soil or more of the tree's base.

*Were it not for shadows, there would be no beauty.*

— JUN'ICHIRO TANIZAKI. IN PRAISE OF SHADOWS (陰翳礼讃)

We sought out the consequences of misplaced experimentation. Of experiments out of place. Of human intervention into habitats generally inhospitable to humans. "*There were people here and now they are not*". The Hohokam tribe populated the Sonoran desert for centuries, then disappeared. The name Hohokam itself translates to "*All used up*" or "*those who are gone*". A human civilisation with an expiration date. A déjà vu? A signal? Phoenix becomes a Hohokam perpetuation holding onto the promise of permanence. Has Phoenix risen from its ashes, transformed?

*The dead are way more organized than the living.*  
—CHINA MIÉVILLE, UN LUN DUN

We drive past dreams of free settlements crumbling in the unrelenting dryness and heat. Ghost towns, haunted utopias, evaporated opportunities. Human dwellings abandoned and desiccated. A scattering of burned cars, shot-up rusty cans. Guns and God. Forgiven, yet not absolved. Desert center, Amboy, Eagle mountain mine. Waste. Waste of space. Waste and space. It seems easier to abandon than maintain here. Engineering mistakes leading to inadvertent ecological transformations. The accidental, yet complete drainage of the Colorado River in a series of mishaps that produced the now semi-living Salton Sea. First Solar's energy farm and inadvertent soil erosion machine. The arid confluence of Joshua Tree National Park where the Mojave and Colorado deserts meet. Why even attempt to build cities in the desert? As Becket echoes "*Try again, fail again, fail better.*"

We are witness to grand visions refusing to fade from matter to memory. Domed structures barely holding onto existence. Failed utopias hovering in some zombie half-life; Biosphere 2, Arcosanti, repeating groups of eight. Half dust. Half baked. What would a banishing ritual for these haunted utopias look like? Could they be transformed, or should they be reused and recycled, like planes in the boneyard?

*Has there ever been a time when finding gaps in the seamless surfaces of 'reality' has ever felt more pressing? Excessive presence leaves no traces. Hauntology's absent present, meanwhile, is nothing but traces...*

—MARK FISHER (K-PUNK), HAUNTOLOGY NOW

*Darkness. Before the darkness there was nothing but nothingness, and the nothingness was without color. Nothing was in the nothingness. (...) The boundlessness of space nurtured a dark new humanity in its dark embrace. (...) The universe had once been bright, too. For a short time after the big bang, all matter existed in the form of light, and only after the universe turned to burnt ash did heavier elements precipitate out of the darkness and form planets and life. Darkness was the mother of life and of civilization."*

—CIXIN LIU, *THE DARK FOREST*

*Darkness mysticism is not only figuratively but historically the dark underside of mystical thought. Even at the apotheosis of divine communion, darkness mysticism retains the language of shadows and nothingness, as if the positive union with the divine is of less importance than the realization of the absolute limits of the human. Darkness mysticism is "mystical" not because it says yes to the therapeutic, anthropocentric embrace of God, but because it says no to the recuperative habits of human beings to always see the world as a world-for-us.*

—EUGENE THACKER, *IN THE DUST OF THIS PLANET*

*What doesn't transmit light creates its own darkness.*

—MARCUS AURELIUS, *MEDITATIONS*

Our language could liquefy, become unstuck, mutate on occasion, from ceremonial to the everyday. Communicate to connect rather than dissect.

From myth making to re-animating myths and re-activating inert (geological or architectural) markers. Geomancy. Material wonder. Walking. From shinto to shamanism (and back again). In sacred refugia and wild sanctuaries. Vaporous thoughts condensed into propositions, commonplaces and fieldguides. **Δ[Δ]** ...until all our material traces erode and conjoin with countless dust particles in the ever expanding desert.

*In the same way the garden remains the garden designed 500 years ago by a poet-architect, even though every plant follows the course of the seasons, rains, frosts, wind; similarly the lines of a poem are handed down over time while the paper of the pages on which the lines are systematically written disappears into dust.*

—ITALO CALVINO, THE WOODEN TEMPLE

*Our language for nature is now such that the things around us do not talk back to us in ways that they might. As we have enhanced our power to determine nature, so we have rendered it less able to converse with us. We find it hard to imagine nature outside a use-value framework. We have become experts in analysing what nature can do for us, but lack a language to evoke what it can do to us. The former is important; the latter is vital.*

—ROBERT MACFARLANE, LANDMARKS



*[n]obody has ever been animist because one is never animist “in general,” always in the terms of an assemblage that produces or enhances metamorphic (magic) transformation in our capacity to affect and be affected – that is also to feel, think, and imagine. Animism may, however, be a name for reclaiming these assemblages because it lures us into feeling that their efficacy is not ours to claim. Against the insistent poisoned passion of dismembering and demystifying, it affirms what it is they all require in order not to devour us – that we are not alone in the world.*

—ISABELLE STENGERS, RECLAIMING ANIMISM



*To engage with animism necessarily involves being provoked to think more carefully about what it means to be a person. [T]he understanding that persons always live in relation with others and, in animist communities, are regularly encouraged to act respectfully—especially towards those one intends to eat. That is, this animism is always local and specific. It might not be at all romantic, transcendent or esoteric, but might instead be quite practical or pragmatic as people negotiate everyday needs.*

—GRAHAM HARVEY, THE HANDBOOK OF CONTEMPORARY ANIMISM



***Refrigerant Management***

***Onshore Wind Power***

***Reducing Food Waste***

***Plant-rich diets***

***Tropical Forest Protection***

***Educating girls***

***Family Planning***

***Utility-scale Solar***

***Silvopasture***

***Rooftop Solar***

— project drawdown



*It is not enough to fight for the land; it is even more important to enjoy it. While you can. While it's still here. So get out there and hunt and fish and mess around with your friends, ramble out yonder and explore the forests, climb the mountains, bag the peaks, run the rivers, breathe deep of that yet sweet and lucid air, sit quietly for a while and contemplate the precious stillness, the lovely, mysterious, and awesome space.*

—EDWARD ABBEY, DESERT SOLITAIRE

*To perceive is to find ourselves not supplied with sense data or objects but subjected in each thing to a reality in the interrogative mode, whose consistency and coherence weighs on us with the weight of an imperative. The imperatives in things, the imperatives things are, do not order us with an imperative for a universal and necessary form of response our thoughts would program for our sensibility; they order the diagrams and variations of our postural schema and exploratory manipulations. A thing is there not as a given and not as a possibility or a hypothesis but as an imperative.*

—ALPHONSO LINGIS, THE IMPERATIVE

# AN AWARENESS EXERCISE

Ron Broglio

Sometimes we overlook the obvious that is right in front of us. This exercise is designed to help us pay attention to the entities on the landscape.

**Duration:** five to fifteen minutes

**Preparation:** It is handy to have a notebook and pen or pencil if you want to write down your reflections.

**First,** Quiet your body and mind then look around. Choose something to spend time with and focus on. To help you choose, ask yourself: what in the landscape calls to you and what do you feel drawn toward?

**Then,** saddle up next to this entity: a large rock, a cactus, an agave or anything in the landscape that calls for your attention. Spend some time in front of this entity. Look, listen, and observe. The key here is to not get distracted. Just focus on this one entity.

**There is much to notice:** light, shadows, colors, textures. Then more deeply there is the felt duration of the entity's life in the landscape, the sense of time it holds in its surfaces, its weight and sense of place.

**Reflections:** List things you noticed about this entity that you did not notice before. Have your feelings or thoughts about this entity changed and if so, how? Next, draw parts of the entity that you found most compelling.

*Ecological awareness is saturated with nothingness, a shimmering or flickering, a shadow play of presence and absence intertwined. What does this feel like from moment to moment?*

—TIM MORGON, HUMAN KIND





*A growing number of studies suggest a dim future for desert dwellers in the coming decades, as they face warmer, drier conditions. (...) Many biologists think that desert organisms are living at the limits of survival — and that cooler regions may be out of reach for slow-moving or short-lived species. (...) Others on the resurvey project are exploring how hotter, drier conditions might harm birds and mammals, by studying species' metabolisms and how much water they lose through evaporation. Ecological modellers can combine these findings with the latest population data to better project how the desert ecosystem might fare as the planet warms. Ideally, scientists would revisit these forecasts in a few decades using fresh data. But fieldwork of this sort is falling out of favour. Staring at the blue mountains on the horizon, Patton says that he doesn't know who will replace him: very few students today train as naturalists, and museums and national parks are chronically underfunded. "Everyone wants to know how nature is changing and why," he says. "But there's almost nobody doing this kind of work"*

—AMY MAXMEN, THE AMBITIOUS EFFORT TO DOCUMENT CALIFORNIA'S CHANGING DESERTS

*So often the first time one did things they were contingent, accidental, and not necessarily good things on which to base a set of habits. There was some searching to be done, in other words, some testing of different possibilities. (...) That was the interregnum, in fact, the naked moment before the next exfoliation of habits, the time when one wandered doing things randomly. (...) The time without skin, the raw data, the being-in-the-world.*

—KIM STANLEY ROBINSON, 2312



*Nacirema culture is characterised by a highly developed market economy which has evolved in a rich natural habitat. While much of the people's time is devoted to economic pursuits, a large part of the fruits of these labor and a considerable portion of the day are spent in ritual activity. The focus of this activity is the human body, the appearance and health of which loom as a dominant concern in the ethos of the people. While such a concern is certainly not unusual, its ceremonial aspects and associated philosophy are unique.*

—HORACE MINER, THE BODY RITUALS AMONG THE NACIREMA

There are sounds all around us, but often we are only aware of them when we direct our attention to listening. As humans, we primarily orient ourselves by vision. So, it takes some careful noticing to realign our relationship to the landscape by sound. Once you experience these modes of listening, you can try them anywhere and at any time.

**Duration:** 4 minutes to hours.

**Preparation:** This exercise can be done anywhere. For desert attunement, try a relatively secluded place. Spend at least one minute with each form of listening.

There are three primary modes of listening in which you can focus attention on different characteristics of the soundfield of a place:

*Passive* – Listen to everything without focus.

*Directed* – Listen to one sound and focus in on every tiny detail.

*Active* – Listen to the relationships between sounds, how they interact.

This is called the “acoustic ecology” of the place.

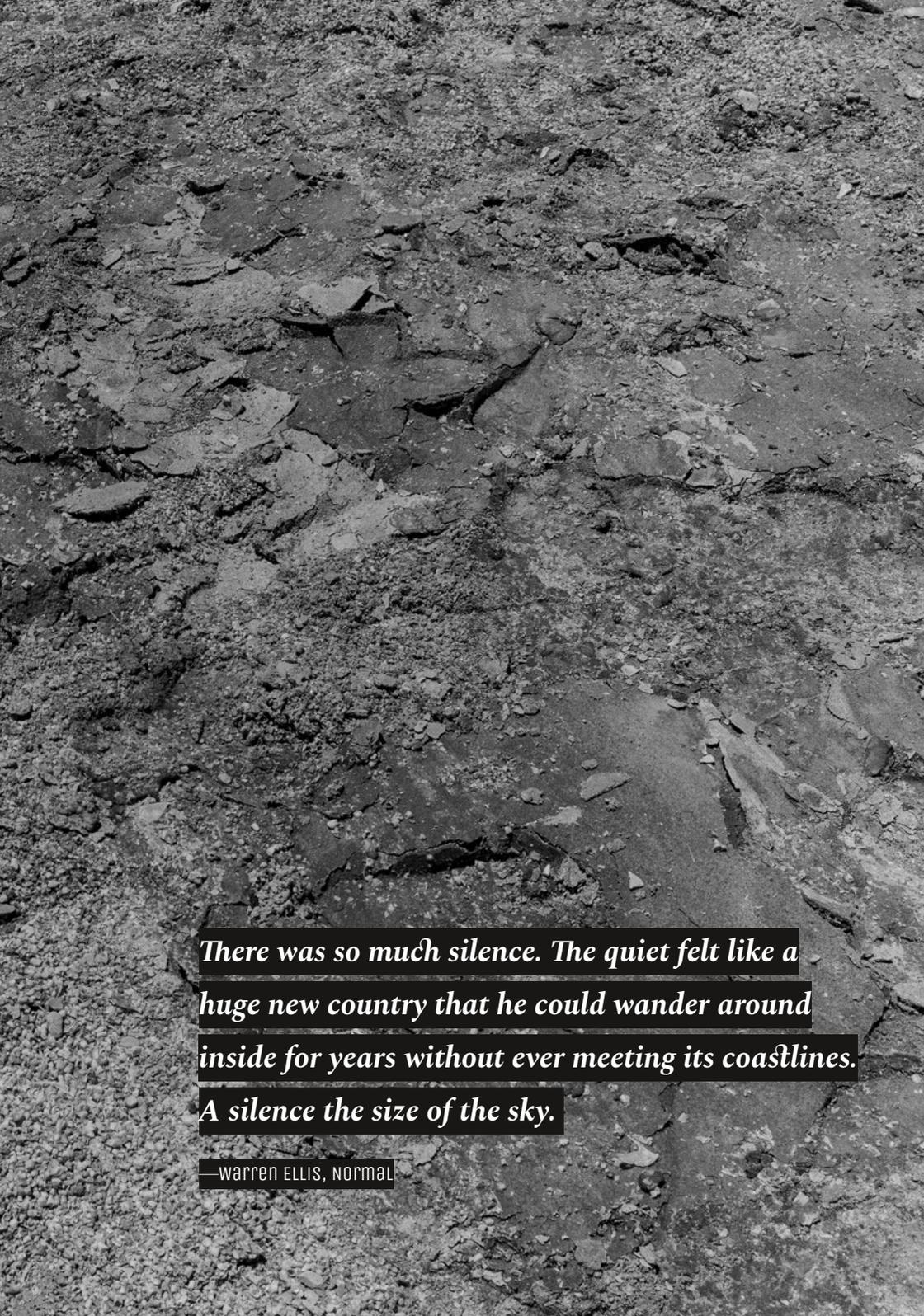
There is also a fourth kind of listening you can try:

*Full Body listening* – This is a deep listening to all the sounds as a whole field. It is not active or directed listening. Instead quiet the mind and body and listen without thinking about the sounds. Let the sounds pass over you and through you. Try to listen without judging the sound as good or bad or high pitch or low. Like waves on a shore, let the sound environment wash over you. Sound artist Garth Paine coined the term “somaphony” for this type of listening. “Soma” comes from the Greek word for body which he fused with the word “symphony” coming from the Greek word meaning harmony. The body is in harmony with the sounds in the environment.

**Reflections:** What did you hear? What changed in the soundfield for you as you changed methods of listening? Try drawing what sounds sound like.

**Further Information:** You can listen to the Southwest deserts online at the Listen(n) Project. For more details about field research, field recordings (using ambisonic recording techniques) and other forms of data collection, visit the Acoustic Ecology Lab at ASU.





*There was so much silence. The quiet felt like a huge new country that he could wander around inside for years without ever meeting its coastlines. A silence the size of the sky.*

—warren ELLIS, *NORMAL*

*Fetishism recognizes a silent voice of material things themselves (Pels 1998: 91). Things lure us, provoke us, direct us, charm, or hex us. The voice that is heard is only in this singular material thing, which we come upon by chance. Fetishism recognizes a realm of good and bad luck. We find ourselves in a partly or largely man-made environment whose structures, tasks, and paths were planned, and we design our actions and follow maps and signs. Yet even there, we encounter nourishing, energizing, and enchanting things and sinister and baleful things by chance. Strokes of good or bad luck, they lead us into byways and freeways from which we may not return to our planned objectives.*

—ALPHONSO LINGIS, THE VOICE OF THINGS

*The tree which moves some to tears of joy is in the eyes of others only a green thing which stands in the way. Some see nature all ridicule and deformity, and by these, I shall not regulate my proportions; and some scarce see nature at all. But to the eyes of the man of imagination, nature is imagination itself.*

—WILLIAM BLAKE

*The key, the inner formula of the mango [date], a willow tree [a creosote bush], or a flat smooth stone, is never grasped; the real thing is before our perception as a task for an exploration. But the real thing is not the sum of all that we have recorded of it. It closes in upon itself, remains exterior always beyond all that our perceptual samplings have turned up of it, not a given but an external ordinance. A perceived thing is a pole which draws the convergent surfaces and organs of our bodies like a telos, a task.*

—ALPHONSO LINGIS, THE IMPERATIVE

# HIKING: SURFACES, CONTACT, AND ENCOUNTERS

Ron Broglio

When going on a hike, it is common to find interesting things in the landscape—a large or small rock, a plant, a leaf, a feather, etc. Rather than collecting and possessing these things, it is best to leave them in their place both for their own sake and for others to enjoy. But the memory of the entities can stay with you. Memories are a trace of an encounter that lingers in the mind. With this exercise, you make a physical rubbing or a tracing of the object on paper. The collection of tracings and rubbings from a hike give you a physical collection of encounters that you can take with you as reminders of contact with the landscape. Duration: time and length of a hike.

**Preparation:** Bring sheets of paper (either loose or in a notebook), a (charcoal) pencil and pencil sharpener, and/or (pastel) crayons.

**Rubbings:** Place your chosen thing on a stable surface. Cover with paper and with the edge of your drawing tool, gently move your pencil, crayon, or charcoal across the surface, create a rubbing that transfers the texture of the thing onto your paper. The surface of the entity is imparted onto paper as memory of your contact with the thing. When you are done making your rubbing, write the name of the thing and its location along the hike. Add notes to help fill out your memory and reflections on the entity and place.

**Tracings:** Some objects are difficult to glean rubbings from or in other cases it is the outline you want to get on paper. In such cases, place your paper behind the entity and trace its outline. If the thing has depth, you might roll it across the paper and trace it from different angles. When you are done making your tracing, next to the tracing write the name of the thing and its location along the hike. As with the rubbings, add notes as you see fit.

**Reflections:** At the end of the hike compare your rubbings and tracings with those done by your fellow hikers. Why did you choose those entities?



*Here's how direct-air carbon capture works: Giant turbines pull in huge quantities of air, hoovering up molecules of carbon dioxide so we can store it somewhere that's NOT the atmosphere. The Icelandic pilot program can remove an estimated 50 metric tons of CO<sub>2</sub> from the air in a year. It pumps the collected gas deep into the island's volcanic bedrock, where it reacts with basalt and essentially turns into limestone. Voilà! No massive reservoirs to manage for millennia — just a lot of rock.*

—AMELIA URRY, THE FIRST NEGATIVE EMISSIONS CARBON CAPTURE PLANT IS UP AND RUNNING

A simple cairn gives presence as it cuts through the open space of the horizon. Its top most rock balanced carefully calls us to attention as we become aware of how its form occupies space. Its weight and balance hold it to its task throughout time and weather. The inhuman heat of the sun bears down upon it. Cold winds cut across it. The cairn remains standing out amid the surroundings. The cairn marks space. It makes us aware of the space and the rocks themselves.

Placed there at some point in the past for passers-by to witness (in their 'now') and holding forth into a future, the cairn is a technology of social signaling. Cairns are antennae between their ecological surrounds and the social. Or they are beacons of transmission and reception linked across space and time. They are born of geological time, stand currently within a human present, and then will tumble again into a geological time beyond the human. The grouping of rocks is more-than-human technology as the more interesting cairns call attention to the rocks themselves as an animate geological presence.

*We do not dislike everything that shines, but we do prefer a pensive luster to a shallow brilliance, a murky light that, whether in a stone or an artifact, bespeaks a sheen of antiquity.*

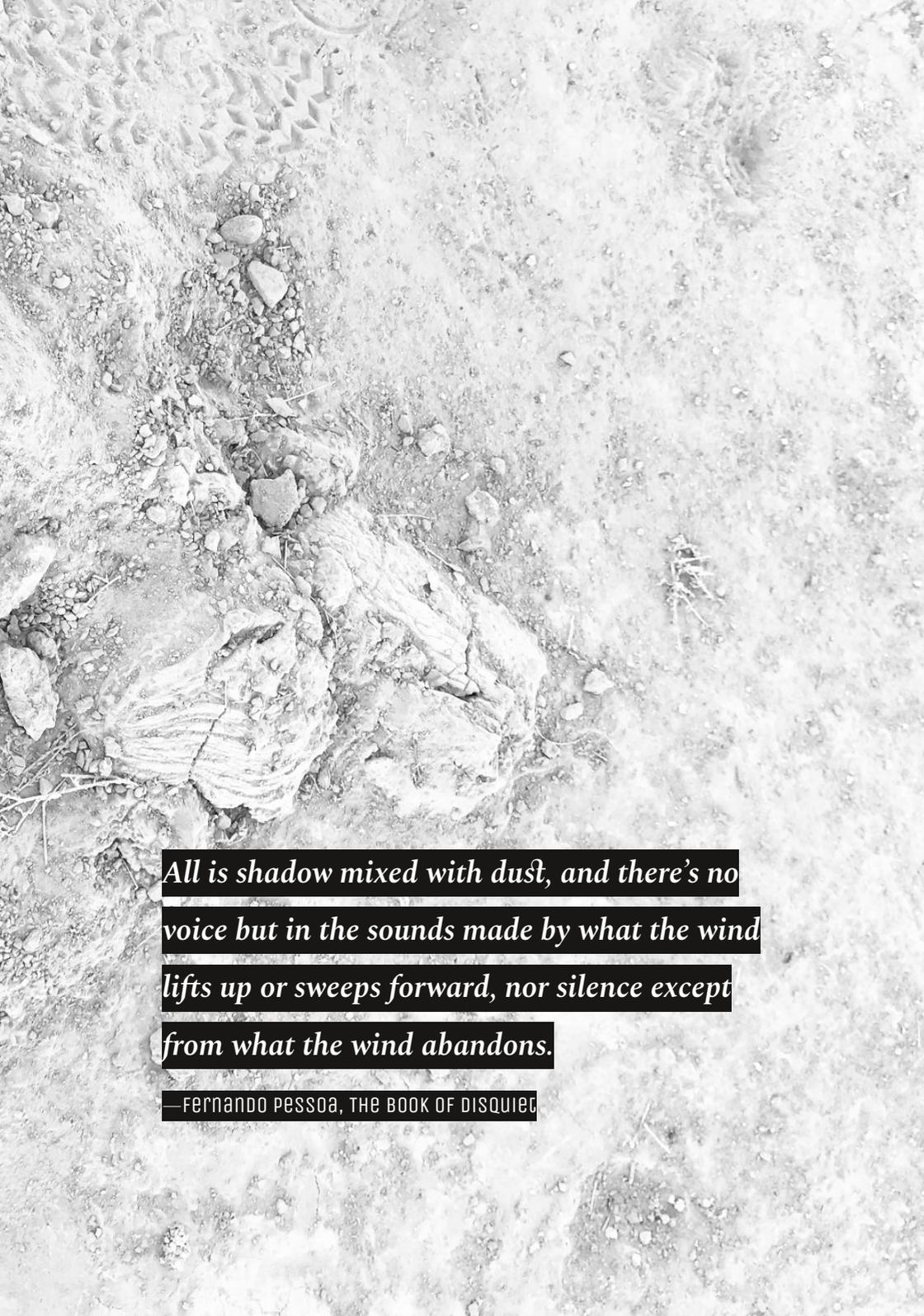
—JUN'ICHIRO TANIZAKI, IN PRAISE OF SHADOWS (陰翳礼讃)

*How other kinds of beings see us matters. That other kinds of beings see us changes things. If jaguars also represent us—in ways that can matter vitally to us—then anthropology cannot limit itself just to exploring how people from different societies might happen to represent them as doing so. Such encounters with other kinds of beings force us to recognize the fact that seeing, representing, and perhaps knowing, even thinking, are not exclusively human affairs.*

—EDUARDO KOHN, *HOW FORESTS THINK*





A black and white photograph of a dirt road. In the upper left, a tire track is visible in the dust. A large, light-colored rock with a textured surface is in the center. The ground is uneven and dusty.

*All is shadow mixed with dust, and there's no  
voice but in the sounds made by what the wind  
lifts up or sweeps forward, nor silence except  
from what the wind abandons.*

—FERNANDO PESSOA, THE BOOK OF DISQUIET

*Philosophy begins in wonder. And, at the end, when philosophic thought has done its best, the wonder remains.*

—ALFRED NORTH WHITEHEAD, *MODES OF THOUGHT*

*The plane is like a desert that concepts populate. The only regions on the plane are the concepts themselves, but the plane is all that holds them together...The plane of immanence is not a concept that is or can be thought but rather the image of thought, the image thought gives itself of what it means to think, to make use of thought, to find one's bearings in thought.*

—DELEUZE AND GUATTARI, *A THOUSAND PLATEAUS*

*A witch is, actually, a successful (in the sense of surviving) deviant. You have a cultural, ideological, social, what-not pattern which is, for that society in question, normal (and, importantly, this is understood as a synonym for natural). Most people survive because they conform to these patterns, because they behave normally. [...] But then suddenly you get a deviant which survives, and since it does not draw its support from the normal pattern, [...] that deviant is understood as drawing its support from “unknown,” “supernatural” sources. [...] If we cannot survive without our order, how can she [the witch] survive in solitude? Hers must be indeed a very powerful order to exist so independently, without all the inter cooperation and individual compromise which we have to go through to survive. And if it is so powerful, then it could destroy us. We must try to destroy it first.*

—MAYA DEREEN, *FROM THE NOTEBOOK OF MAYA DEREEN*

The Royal Scientist secures for himself a unique existence. Heidegger speaks of the way in which a man - a being among beings - "pursues science" and through this process, the irruption of one being called "man" transforms into the whole of beings: Man. Science shows Man what he is and how he is. Science reveals this being among beings to be an object of investigation, an object to be known, grasped, and revered as the Being through which all other beings come to have meaning: homo sapiens. But here's the catch: it is only through Science that Man is revealed to be the kind of being that grounds all other beings. Science announces the end of all other revelations and is an antidote to all other delusions, hallucinations, and phantasms.

To make manifest: the Royal Scientist reveals and thus secures himself to himself. And yet the history of "to manifest" lies not in the realm of knowledge, but in delinquency: "to be caught in the act." To make manifest as Man, a being among others—is this not a form of delinquency or perhaps one might say, conjuring, to make oneself appear to the world in such a way? Surely this magical manifestation obliges some sort of calling out?

The Royal Scientist/Man, then, conjures up such an existence for himself. Because technology is central to the work of science, we should perhaps call him the Royal Technoscientist. He continually invents new technologies in order to see, witness, calculate, and experiment on the world. Science and technology thus join forces, go hand in hand as a means for "crossing the great distances" between human knowledge and the world. The knower observes and learns. Technology is his tool for achieving greater success, crossing voids and filling in remaining gaps in human knowledge of the objective world. Technoscientific Man waves his wand and reduces the world to calculation, abstraction, mathematics, algorithms, models.

*But in the real world it is more important that a proposition  
be interesting than that it be true*

—ALFRED NORCH WHITEHEAD, PROCESS AND REALITY

*The cosmos must therefore be distinguished here from any particular cosmos, or world, as a particular tradition may conceive of it. Nor does it refer to a project designed to encompass them all . . . In the term cosmopolitical, cosmos refers to the unknown constituted by these multiple, divergent worlds, and to the articulations of which they could eventually be capable, as opposed to the temptation of a peace intended to be final, ecumenical: a transcendent peace with the power to ask anything that diverges to recognize itself as a purely individual expression of what constitutes the point of convergence of all*

—ISABELLE STENGERS, COSMOPOLITICS



*In each of us there is, as it were, an ascesis, in part turned against ourselves. We are deserts, but populated by tribes, flora and fauna...And all these clans do not undermine the desert, which is our very ascesis. On the contrary, they inhabit it, they pass through it, over it*

—GILLES DELEUZE, DIALOGUES

There is a young scientist who sees an empty space between himself and the world. Between homo sapiens, the knower, and cosmos, the ordered whole (which is pure possibility for it is as yet unknown), a gulf spreads out. The energetic young scientist seeks to fill these gaps by building bridges. He steps out, walks across the vastness he calls the unknown, the immense gulf that lies between himself and the world, and what does he see? More emptiness, the unfurling of new distances growing out in every direction. Science offers Man more than simply knowledge of himself; science unveils an endless proliferation of Opportunity, of empty space for the engineering scientist to cross.

*I'm trying to subjectify the universe, because look at where objectifying it has gotten us. To subjectify is not necessarily to co-opt, colonize, exploit. Rather, it may involve a great reach outward of the mind and imagination."*

—URSULA K. LE GUIN, DEEP IN ADMIRATION

What types of bridges does the young scientist build? Waving his magic man, the scientist conjures as many bridges as there are gaps, gulfs, gorges, and gullies in the universe. There are bridges to span the gulf between our two bodies. Bridges to cross the distance between our minds and the ideas hidden within. Bridges to fill the gap between here and there, between life and death, between the spectator and the exhibition, between the viewer and the work of art, between the past and the present...and with each new bridge, my, how the distances grow!

How many distances can homo sapiens be expected to cover?

*Ideas at first considered outrageous or ridiculous or extreme gradually become what people think they've always believed. How the transformation happened is rarely remembered, in part because it's compromising: it recalls the mainstream when the mainstream was, say, rabidly homophobic or racist in a way it no longer is; and it recalls that power comes from the shadows and the margins, that our hope is in the dark around the edges, not the limelight of center stage. Our hope and often our power.*

—REBECCA SOLNIT, HOPE IN THE DARK



*We have nothing in common with the Geometers. No shared experiences, no common culture. Until that changes, we can't communicate with them. Why not? Because language is nothing more than a stream of symbols that are perfectly meaningless until we associate them, in our minds, with meaning; a process of acculturation. Until we share experiences with the Geometers, and thereby begin to develop a shared culture - in effect, to merge our culture with theirs - we cannot communicate with them, and their efforts to communicate with us will continue to be just as incomprehensible as the gestures they've made so far...*

—NEAL STEPHENSON, ANATHEM

*Duration: momentary. Nature: changeable. Perception: dim. Condition of Body: decaying. Soul: spinning around. Fortune: unpredictable. Lasting Fame: uncertain. Sum Up: The body and its parts are a river, the soul a dream and mist, life is warfare and a journey far from home, lasting reputation is oblivion.*

—MARCUS AURELIUS, MEDITATIONS



*Enlightenment is a dodgy proposition. It all depends how much you want to risk. Not money so much as personal safety, precious time, against a very remote long shot coming in. It happens, of course. Out of the dust, the clouds of sweat and breath, the drumming of hooves, the animal rises up be-hind the field, the last you'd've expected, tall, shining, inevitable, and passes through them all like a beam of morning sunlight through the spectral residue of a dream. But it's still a fool's bet and a mug's game, and you might not have the will or the patience.*

—THOMAS PYNCHON, AGAINST THE DAY

This is a seemingly simple exercise that can change your relationship to your surroundings by just slowly walking across a desert terrain. It is ideal in a relatively level and open space. Duration: 32 minutes

**Preparation:** Start in a place that can serve as a visibly distinct marker and can be seen for at least 100 feet. If need be, temporarily attach a scarf or bandanna to a tree or other vertical structure so that your make-shift flag can be seen at about 100 feet. This will help to ensure you can find your way back if you get slightly disoriented. Also recommended is a hiking whistle which is always handy should you get lost or have an emergency.

**Part One, Lines:** For this part of the exercise,, slowly walk making a square shape. Start by walking in a straight line for 4 minutes. After 4 minutes, turn clockwise 90 degrees and proceed walking in a straight line for another 4 minutes. Turn clockwise 90 degrees and walk four minutes. Repeat again for a total of 3 turns and 4 lines which will make a square and return you (more or less) to the place you started. You may have to walk over rocks or for more difficult obstacles, you may have to make a series of straight lines around the obstacle. The key is to try to maintain straight lines from each 90-degree turn. At the end of part one return to your designated starting place. Duration of part one is 16 minutes.

**Part Two, Squiggles:** For this part of the exercise, slowly walk freely in any direction and move around objects and terrain in sensitivity to the landscape and your body. There is no set line nor direction and you can move in squiggles, curves, and any shape that corresponds to how your body feels along the landscape. Do this for 8 minutes. Then turn toward the designated starting space and take 8 minutes to return using the same squiggle method of responding to the landscape. Duration of part one is 16 minutes.

**Reflections:** What differences did you notice between the Lines and Squiggle walking? How did your body, mind, attention, or awareness of the landscape change? Draw how your walks feel and write down your observations.

*Alignment in tentacular worlding must be a seriously tangled affair!*

—DONNA HARAWAY, STAYING WITH THE TROUBLE

We'll start with the Joshua tree, the Mojave Desert's most iconic plant. With its spiny fronds and clubbed tufts topped by pungent, waxy flowers twisting towards the desert sky, this desert-adapted shrub has a reputation for otherworldliness. (...) Few travelers, however, wax poetic about its evolutionary partner, the yucca moth. The small, dun bug is initially unassuming, but upon closer inspection, it is an equally extraterrestrial match for the iconic Joshua tree. Instead of a regular mouthpiece, it sports bizarre, tentacle-like fronds, the likes of which are unique among insects—and serve an essential purpose in the desert ecosystem. Without nectar to attract pollinators, Joshua trees rely solely on this unassuming moth for pollination. Yucca moths use their dexterous jaw appendages to collect pollen from Joshua tree flowers and deposit it on the female parts of each flower as the moth moves between blooms. In turn, the moth lays her eggs with its thin, blade-like ovipositor on the flowers' seeds. When they hatch, the yucca moth caterpillars eat the seeds—their only food source—before crawling to the ground to form cocoons. And the cycle begins again.



**Joshua trees (...) create essential environmental support for the uncompromising desert ecosystem.**

These hideously beautiful shrubs provide food and shelter for animals in the Mojave scrublands, where resources are notoriously scarce. During the spring, its flowers are one of the only sources of wet food available for insects, ravens, and ground squirrels. Yet today, their long-lived partnership may be in danger of breaking down, as the Joshua tree's natural habitat faces new threats.

But there's a problem here. The Joshua tree is critically threatened by climate change. The night time lows are higher than they have been, and daytime highs are getting higher, drying out the already dry soil. Scientists estimate that the range of Joshua trees within Joshua Tree National Park by the end of the century will be 10% of what that range currently is. Joshua trees are naturally moving northward and upward in elevation: cooler and wetter. But the question is: will the yucca moth migrate with the Joshua tree? If it won't, then what happens?"

—SAM SCHIPANI, HOW A TREE AND ITS MOTH SHAPED THE MOJAVE DESERT

**Further information:** Lines and squiggles have associations with the desert Southwest. Native Americans did some farming but many tribes were also seasonally semi-nomadic for hunting, harvesting, and climate purposes. When Americans from the East entered the terrain, there were two prominent groups: cattlemen who let their animals wander and graze and farmers along with town folk who divided property more akin to a grid system. Many of the tensions in the West had to do with expectations of being able to wander versus expectations of grid-like farming and property settlement. You might think too of the lines and squiggles of the Southwest from straight lined state boundaries and highways to wandering lines of geographic terrain.

For more on walking as an art at the Museum of Walking and Rebecca Solnit's *Wanderlust: A History of Walking*. For a history of late 19th and early 20th century conflicts in the West, see *The Earth is Weeping: the Epic Story of the Indian Wars* by Peter Cozzens.

*I am not interested in reconciliation or restoration, but I am deeply committed to the more modest possibilities of partial [multispecies] recuperation and getting on together. Call that staying with the trouble, (...) with less denial and more experimental justice.*

—DONNA HARAWAY, STAYING WITH THE TROUBLE

*One of the things that the 19th century has taught me is that you can't dream for justice, you can't dream for reconciliation, you can't dream for any kind of resolution in the future. That kind of teleological view towards the future is not a very helpful one. It's much more useful to think about it in terms of present-day energies.*

—EDDY KENT

*Spells are nothing but poems intended to write something new on the face of reality.*

—WARREN ELLIS



*"Water, water, everywhere, Nor any drop to drink." It might seem counter-intuitive, but Coleridge's famous line from the Ancient Mariner could also apply to the desert. Even in some of the driest places on earth, the air holds thousands of litres of fresh water that have remained tantalisingly inaccessible. Until now. Scientists at MIT and the University of California at Berkeley have created a device that can suck water from the air. Even better: it's solar-powered. So, even in the most remote, arid deserts it can harvest drinking water from the atmosphere.*

—CHARLOTTE EDMOND, THE SOLAR-POWERED TECH THAT GENERATES WATER OUT OF DESERT AIR

## ***Nopales*** (aka Paddle Cactus)

The paddle cactus is a desert version of Southern okra with a similar texture and taste. You can buy paddle cactus at Latino grocery stores or if you have your own access to these plants, you can take a few paddles from your plant.

Remove the spines and edges from each paddle. Place the paddle on a cutting board. With a sharp knife, cut away the edges and scrape off the spines. Some folks use protective gloves to help avoid being poked by the spines and some use pliers to pull off the poking spines before scrapping away the eye of the spine.

Rinse the paddles and cut them into bite size rectangles.

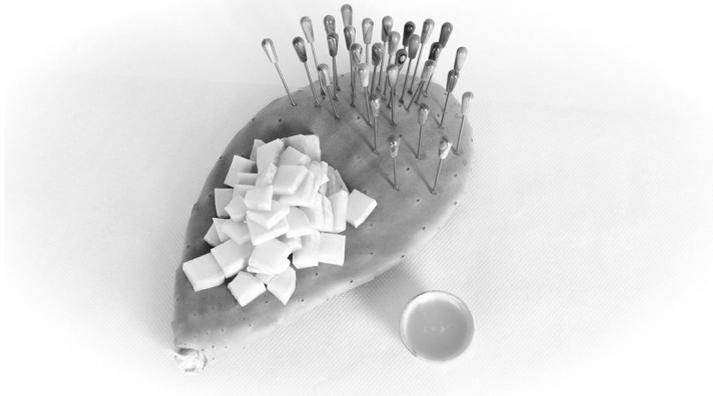
In a large pot heat enough water to cover the paddles (but don't add the cactus yet, wait until the water boils)

Once the water is boiling, add cactus and toss in an onion cut in large chunks, a few cloves garlic, and salt.

Boil uncovered for 8-10 minutes until the cactus is tender. Keep an eye on the pot. The cactus may produce a foam; so be mindful it doesn't spill over the pot.

Once tender, drain from pot and pat dry with a towel.

Paddle cactus are very good in scrambled eggs or in a Southwestern bean salad. You can also lightly sauté them with onions and tomatoes, top with cilantro, and serve as a salad or dip.



*The [Tepary] bean thrives on vines even in the hottest months, and packs more protein and other nutrients than its more common relatives, like pinto and kidney beans. Arizona's earliest residents grew teparies for thousands of years, but in recent history, the beans were at risk of shriveling into obscurity. "We have to preserve the past. We have to preserve our traditions," Button said. "We have to respect the responsibility that we have." The beans come in a spectrum of colors: white, brown, black, and speckled blue like robin's eggs.*

*"There's a way, that I can't describe in words, where teparies to me taste like the desert itself," [tepary bean evangelist Gary Paul Nabhan] said. "They have this nuttiness and this resilience." (...) Nabhan believes the drought-tolerant teparies could become a solution for growing food in a hotter and drier Arizona. Traditionally, the Tohono O'odham grow teparies on monsoon rains alone.*

*"I think we're going to see agriculture of the future looking much more in harmony with the desert rather than always being in struggle with a desert existence,"*

—MARIANA DALE, ARIZONA'S TEPARY BEANS

# *Mesquite Flour*

Mesquite flour is highly nutritious with a sweet, caramel-like taste. It is best used mixed with other flour such as wheat at a ratio of  $\frac{1}{4}$  to mesquite to  $\frac{3}{4}$  wheat flour. It works well in pancakes, cornbread, and smoothies. It can be added in smaller quantities  $\frac{1}{6}$ th to  $\frac{5}{6}$ th in making bread.

Mesquite Flour is gluten free and high in protein (between 11-17% depending on the variety of mesquite) and high in soluble fiber. It is also a good source of calcium, magnesium, potassium, iron, and zinc.

## **To make Mesquite flour**

Gather dried mesquite pods (also called “beans”). These are the beige pods that look like long snap beans. You can use the whole long pod.

Harvest before the first rain of summer or in late summer or fall, long after the rainy season. This is important to avoid aflatoxin contamination – the black spots of mold found on the pod. Pods still on the tree are safest. Ripe pods from the tree require only a slight tug.

Dry the pods. To ensure pods are dry, you can lay them on a drying rack for a few days or put them in the oven at low temperature to dry. Alternatively, you can use a dehydrator.

Mill the pods. Using a blender or Vitamix, grind the pods into a flour. Sift the flour and return the rough unsifted parts to the blender for further milling.

Store in a jar in a dry place. Best used within a few months.

Alternative uses for pods. Using 4 quarts water to 1 pound beans, cook on a low heat for 12 hours. Then strain and reduce by boiling until it is a thick syrup. You can use the syrup as you would any sweetener, syrup, or honey—for example, add in smoothies or tea.

△



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*We can come alive only to the extent the buildings and towns we live in are alive. The quality without a name is circular; it exists in us, when it exists in our buildings; and it only exists in our buildings, when we have it in ourselves. To understand this clearly, we must first recognize that what a town or a building is, is governed, above all, by what is happening there. Those of us who are concerned with buildings tend to forget too easily that all the life and soul of a place, all of our experiences there, depend not simply on the physical environment, but on the patterns of events which we experience there. These patterns of events which create the character of a place are not necessarily human events. (...) The sunshine shining on the windowsill, the wind blowing in the grass are events too—they effect us just as much as social events.*

—CHRISTOPHER ALEXANDER, THE TIMELESS WAY OF BUILDING

*C14 Clocks*

*Mythologies*

*Xenogenesis*

*City and the City*

*Reclaiming animism*

*Governing the Commons*

*Anthropology in the time of the Anthropocene*

*The mushroom at the end of the world*

*The Enchantment of Modern Life*

*Body ritual among the Nacirema*

*The good natured feminist*

*The last angel of history*

*Customs in Common*

*Humankind*

*Anathem*

2312

*Deserts possess a particular magic, since they have exhausted their own futures, and are thus free of time.*

—J.G. BALLARD, THE AGROCIETY EXHIBITION

02017-11-23 to 02017-12-06

We hiked into the Superstitions in search of the mythical source of dust storms, finding enigmatic petroglyphs and a dry creek bed. From our higher vantage point the city became a mirage, merging into the hazy plain punctuated by saguaro cacti. Centuries of human inhabitation evaporated in that mirage.

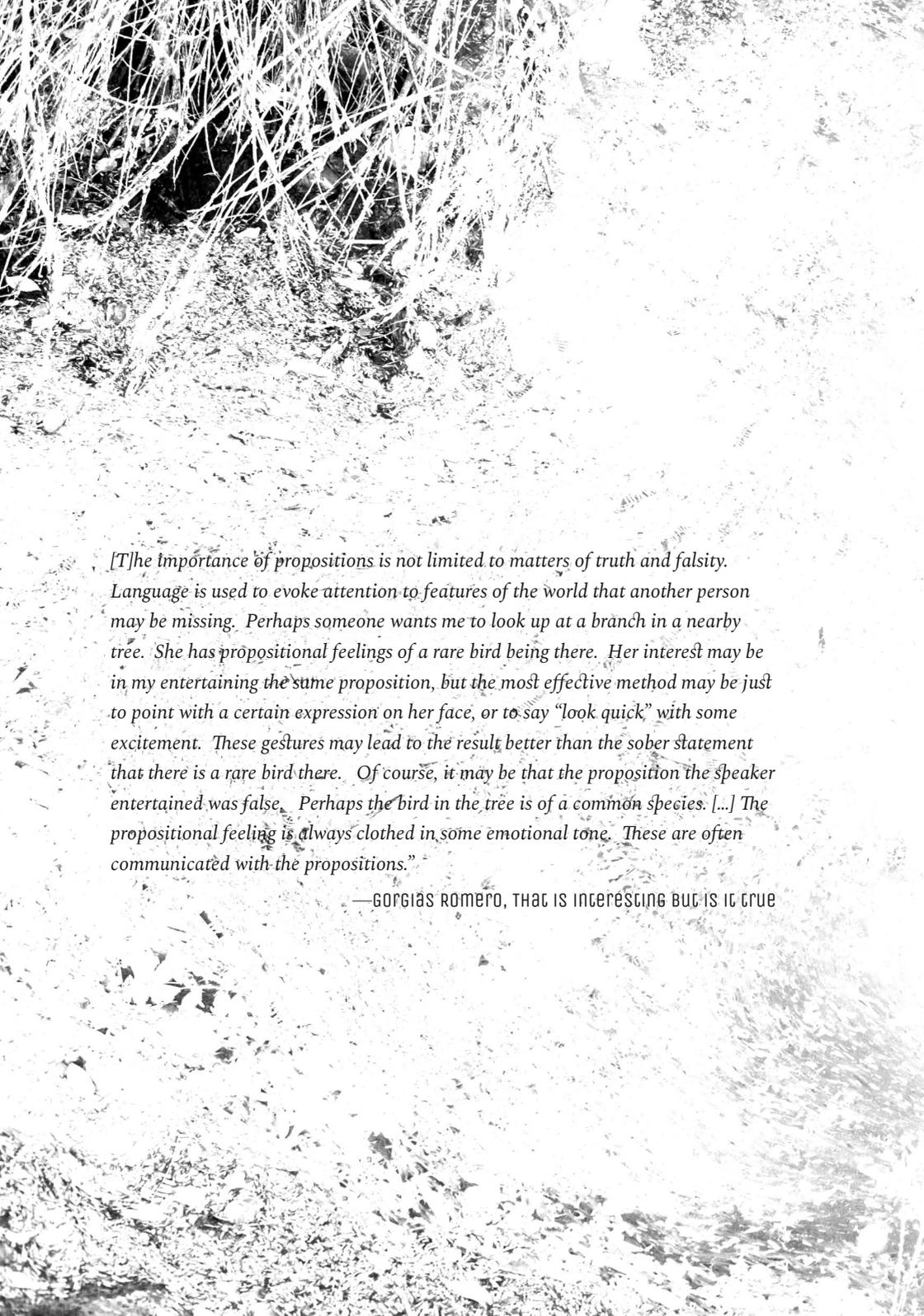
Sacred objects, collected materials and traces of the desert across suburbia became text. A tuft of coyote's fur, a date, a red rock, a cholla spike, and a drop of mezcal, drunk with friends under the vast, darkening skies.

*The Anthropocene is the time at which the human becomes truly thinkable in a non-teleological, non-metaphysical sense. The waste products in Earth's crust are also the human in this expanded, spectral sense, as if what the human becomes is a flickering ghost surrounded by a penumbra of flickering shadows that seem to hover around it like a distorted halo.*

—TIMOTHY MORTON, HUMANKIND

*One must wait for the moment when the thing – the hill, the tarn, the lunette, the kiss tank, the caliche flat, the bajada – ceases to be a thing and becomes something that knows we are there.*

—BARRY LOPEZ, HOMEGROUND



*[T]he importance of propositions is not limited to matters of truth and falsity. Language is used to evoke attention to features of the world that another person may be missing. Perhaps someone wants me to look up at a branch in a nearby tree. She has propositional feelings of a rare bird being there. Her interest may be in my entertaining the same proposition, but the most effective method may be just to point with a certain expression on her face, or to say “look quick” with some excitement. These gestures may lead to the result better than the sober statement that there is a rare bird there. Of course, it may be that the proposition the speaker entertained was false. Perhaps the bird in the tree is of a common species. [...] The propositional feeling is always clothed in some emotional tone. These are often communicated with the propositions.”*

—GORGIAS ROMERO, THAT IS INTERESTING BUT IS IT TRUE

"Arms trading, dictatorships and murder are environmental politics" points out China Miéville, that cannot be separated from pollution, climate change and renewable energy targets.

What are the environmental politics in the North American South West, specifically to life in the desert? What are the implications for the people, plants, plastics (etc) and the environment they live in? What peculiar futures or parallel presents exist in this "Valley of the Sun"? What new worlds can emerge from a region swayed by the unpredictability of heatwaves, poor water distribution and over-enthusiastic promises of the tech industry?

*To learn which questions are unanswerable, and not to answer them:  
this skill is most needful in times of stress and darkness*

—URSULA LEGUIN, THE LEFT HAND OF DARKNESS

We travelled through layers of signals, systems and stories in search of the hardened sediment of metaphoric undercurrents. The libertarian ethos and protestant work-ethic ration desert time into the neurotic drip and trickle of temporal scarcity. Time is submitted to a relentless economic valuation.

Work must continue, no matter the conditions, in the "Sand of the Free, Sprawl of the Brave". Idleness is still considered the devil's playground, siestas close to sacrilege.

The distrust of "elites" and rhetoric of self-reliance encourage a culture of conservative individualists and a precarious belief in the Dominion of Man over Earth.

*Genesis 1:26, Luke 10:19*

*The Wilderness Act*  
*The dark mountain*  
*Hope in the dark*  
*Ecology of Mind*  
*The Imperative*  
*Solarpunk*  
*Dust studies*  
*Dark ecology*  
*Book of Sand*  
*Minutes to midnight*  
*Too like the lightning*  
*In praise of shadows*  
*Autobiography of Red*  
*Staying with the trouble*

*In this time of diminished expectations, I look for disturbance-based ecologies in which many species sometimes live together without either harmony or conquest.*

—ANNA TSING, *THE MUSHROOM AT THE END OF THE WORLD*

*Bear in mind that everything that exists is already fraying at the edges, and in transition, subject to fragmentation and to rot.*

—MARCUS AURELIUS, *MEDITATIONS*

Water rights and food sovereignty stretch public infrastructure close to breaking point. Environmental problems tend to be tackled as single issues with inventive technological solutions.

Yet a larger conundrum remains; Phoenix exists far from equilibrium,

requiring massive external inputs for its continued existence. Despite the desert, not within the desert. Holding onto an idealised image of urban life, haunted by the shadow of its possible demise. Water, power and other essentials imported from afar to keep up an appearance of a stable oasis. The myth of the Wild West in a desert on demand.

*... machines themselves – rather than destroying aura or hastening the disenchantment of the world – were granted an uncanny power to animate the inanimate, to emancipate and spiritualise “vibrant matter.” The powers of technology triggered aspirations toward an intersubjectivity that would embrace more than just humans; they lent support to the view that all elements of the world would participate in a single, living, intelligent, and perhaps divine substance. (...) Rethinking technology meant rethinking the basis of the social bond and the order of the universe and, potentially, living very different lives. Updated to the present, mechanical romanticism suggests that even if solutions must be small and local, they require a conceptual and aesthetic frame that is deep and wide.*

—JOHN TRESCH, ROMANTIC MACHINE

*Humankind is flickering, displaced from itself, ecstatic, rippling and dappled with shadows. Shadows made not only by some other entity interacting with it, like the sun through the trees, but shadows that are an intrinsic part of the thing.”*

—TIMOTHY MORTON. HUMANKIND



*A Practical Guide to Unconscious Reasoning*

*Into the universe of technical images*

*Panpsychism & Noumenautics*

*The word for world is forest*

*How forests think*

*Q is for Quicken*

*Point Omega*

*Ventus*

*Finite media*

*Crystal radio*

*Geology of media*

*Romantic machines*

shadow

We reached Shadow Belmont. A place deeply familiar with shade. Shade architecture, shaded transport, sheltered time. A cityscape layered with a latticework of porches, pergolas, verandas, galleries, awnings, canopies, umbrellas and trees. From above the city looks like a desert garden. The shade of the high canopy stands on cactimorphic succulent pillars, doubling as public water sources. Closer to the ground, multi-trunked mesquite marquees diffuse light across outdoor kitchens and intimate courtyards.

*BUILDINGS SELF-AGGREGATED OUT OF ANGLES AND shade*

—CHINA MIÉVILLE, KRÅKEN

A city in a city living the experiential time of spiders, snakes and saguaro. The variable abundance of time is sensed and modulated by the antennae-centric tech industry. Deep listening technologies. Nomad tech on smart grids accustomed to oscillations of resources.

This place does not shy away from its own shadow. The shadows of dust storms, water shortages, gun-slinging individualism, heat delirium and venomous critters, the fickleness of the desert and its inhospitable heart.

With drought cycles lengthening, water tokens fluctuating and heat waves becoming less predictable, self-reliance is gradually giving way to the security of commons management, stewarding the preciousness of life, in a desert teeming with life.

*As the day comes to an end, the twilight dissolves the surfaces, absorbing their colors, leaving their reflections suspended in space. The luminous transparency in open spaces condenses into beams and phosphorescence. Things lose their separatedness. The shadows advance over the colors and the contours that they outlined are lost. Darkness infiltrates the landscape, obliterating its paths and filling up its open planes. Overhead the blue of the atmosphere recedes and the starlights drift over unmeasurable distances.*

—ALPHONSO LINGIS, THE IMPERATIVE







## Dust & Shadow Reader #1

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“Philosophy begins in wonder. And, at the end, when philosophic thought has done its best, the **wonder** remains.”

Alfred North Whitehead