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Weathering Ambivalences

Between Language and Physics

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ABSTRACT: The chapter engages the nature–culture divide with the generative ambivalences of weathering in both language and physics. Taking the different uses of the enantiosemic and ambitransitive verb as indicative of the human's fraught relationship with its environment and itself, it analyses multiple ways in which 'weathering' can involve subject–object relations, objectless subject–predicate relations, or even subjectless processes, and proposes to think them with mechanics, thermodynamics, and chaos theory.

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INTRODUCTION

Proverbially unpredictable, the weather presents many challenges and ambivalences both on the level of (human) language and of (natural) science. Many languages have a particular, rather peculiar class of ‘weather verbs’, which are arguably as ‘ill-behaved’ as the weather itself. Nothing seems more banal than to speak about the weather, wondering whether it will be warm or cool today, whether it will rain or storm. Yet, linguists still discuss the ‘*it* that does the raining in English and many other languages.’¹ They ask, for instance, whether ‘*it*’ is a dummy, expletive pronoun or whether ‘*it*’ refers rather to an ‘all-encompassing’, ‘total environment.’² Perhaps this wavering between

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- 1 Ronald W. Langacker, *Foundations of Cognitive Grammar*, 2 vols (Stanford, CA: Stanford University Press, 1991), II: *Descriptive Application*, p. 365, quoted by Beth Levin and Bonnie Krejci, ‘Talking about the Weather: Two Construals of Precipitation Events in English’, *Glossa: A Journal of General Linguistics*, 4.1 (2019), Art. 58, pp. 1–29 (p. 1) <<https://doi.org/10.5334/gjgl.794>>.
 - 2 Dwight Bolinger, *Meaning and Form*, English Language Series, 11 (London: Longman, 1977), pp. 78, Dwight Bolinger, ‘Ambient *It* Is Meaningful Too’, *Journal of Linguistics*, 9.2 (1973), pp. 261–70 (p. 261) <<https://doi.org/10.1017/S0022226700003789>>, and Wallace L. Chafe, *Meaning and the Structure of Language* (Chicago: University of Chicago Press, 1970), pp. 101–02.

all and nothing should be taken as an indication that the subject of the weather is an ill-posed question. Indeed, what Noam Chomsky calls the ‘weathering-*it*’ conjures up the kind of ‘grammatical habit’ and ‘seduction of language’ that Friedrich Nietzsche insistently considered as the source of misguided beliefs.³ Following Nietzsche’s reasoning, the question of the (grammatical) subject of weather verbs can indeed be said to transport an erroneous and detrimental dualism that takes all change, alteration, and becoming to be conditioned and caused by a radically different, separate subject — essentially the Cartesian ego conceived as substance, being, and free will.

Correcting the *Cogito* by an ‘it thinks’ is insufficient for Nietzsche, insofar as the doing remains doubled by a fictive doer — leading to

3 Noam Chomsky, *Lectures on Government and Binding*, Studies in Generative Grammar, 9 (Dordrecht: Foris Publications, 1981), pp. 324–25; Friedrich Wilhelm Nietzsche, *Beyond Good and Evil / On the Genealogy of Morality*, trans. by Adrian Del Caro, The Complete Works of Friedrich Nietzsche, 8 (Stanford, CA: Stanford University Press, 2014), *Beyond Good and Evil*, §17, p. 19 and *Genealogy of Morality*, 1–13, p. 236. To quote the passages to which I will return more fully, Nietzsche writes in *Beyond Good and Evil* (1886): ‘it is a falsification of the facts to say: the subject “I” is the condition of the predicate “think.” It thinks: but that this “it” is precisely that old famous “ego” is only an assumption, an assertion, to put it mildly, and by no means an “immediate certainty.” In fact too much is already claimed with this “it thinks”: even this “it” contains an *interpretation* of the process and doesn’t belong to the process itself. Here the concluding is done according to grammatical habit, namely “thinking is an activity, to every activity belongs something that is active, therefore—.” Following basically the same scheme, the older atomism looked at every effective “force” for that little particle of matter in which it resides, and from which it produces effects, that is, the atom; more rigorous minds finally learned to do without this “earth residuum,” and perhaps someday we will even accustom ourselves, logicians included, to doing without this little “it” (into which the honest old ego has vanished)’ (§17, p. 19). In *On Genealogy of Morality* (1887), Nietzsche further expands on this ‘grammatical habit’, referring to the ‘seduction of language (and the basic errors of reason petrified in it), which understands and misunderstands all effecting as conditioned by something that effects, by a “subject.” For instance, just as ordinary people separate lightning from its flashing and take the latter as its *doing*, as the effect of a subject that is called lightning, so too popular morality separates strength from the expressions of strength, as if behind the strong one there were an indifferent substratum *free to* express strength or not to. But there is no such substratum; there is no “being” behind the doing, effecting, becoming; the “doer” is merely tacked on as a fiction to the doing — the doing is everything. The people basically double the doing when they have the lightning flashing; this is a doing-doing: it posits the same occurrence once as cause and then once more as its effect. Natural scientists do no better when they say “force moves, force causes” and so on — despite all its coolness, its freedom from affect, our entire science still stands under the seduction of language and has not gotten rid of the false changelings foisted upon it, the “subjects” (the atom for instance is such a changeling, likewise the Kantian “thing in itself”)’ (pp. 236–37).

a redundant ‘doing-doing’ as he notes in a related text, which takes the common separation of ‘lightning from its flashing’ as example for language foisting in subjects everywhere. Suggesting that the natural sciences succumb to the same seduction when they speak of forces that move and are to be localized in matter, Nietzsche claims that ‘more rigorous minds finally learned to do without this “earth-residuum”, and looks forward to the day when we ‘accustom ourselves, logicians included, to doing without this little “it” (into which the honest old ego has vanished [zu dem sich das ehrliche alte Ich verflüchtigt hat])’.⁴

However, such attempts at overcoming the last anthropomorphism — even in impersonal weather verbs with expletive or all-encompassing subjects — risk reinforcing anthropocentric oppositions and generating new human, or indeed overhuman, figures. If talking about the weather is a well-trying manner of establishing sociality, the unpredictable power of the elements, weather conditions, or atmospheric agencies conjure up an abyss of chaos as the sublime ground for (re)newed constitutions of the human.

As I shall suggest, such an anthropogenic function of the weather is sedimented in the verb ‘to weather’ insofar as this verb seems to be the precise obverse of impersonal weather verbs: in its manifold and multivalent uses, it takes for granted the activity and effects of the elements and considers them as implicit, impersonal background for subjects that are always human or, at least, anthropocentric.

At the same time, I will argue that if weathering has a semantic history that is anthropocentric, its multivalent grammar also points to a process of weathering that not only precedes oppositions of subject and object, culture and nature, or language and science but that can also be understood as the ground from which such oppositions emerge. And while language may not be able to do without the subject, reading the ambivalences of linguistic weathering with those of scientific weathering opens the possibility of re-working time-honoured

4 Ibid., p. 19. Walter Kaufmann’s translates the bracket as ‘which is all that is left of the honest little old ego’, which suggests to my mind more accurately that the ego is still present in this ‘it’. See Friedrich Wilhelm Nietzsche, *Beyond Good and Evil: Prelude to a Philosophy of the Future*, trans. by Walter Arnold Kaufmann (New York: Vintage Books, 1989), §17, p. 24.

dualistic oppositions so that they come to matter otherwise, that is, in a less anthropocentric manner. The idea here is not that science can avoid the linguistic predicate-subject separation, which tends to substantialize the subject even before it is opposed to an object, but rather that physics, for instance, in seeking to model unpredictable phenomena on the basis of natural laws, conjures up other kinds of ‘subjects’, which may help keep the grammatical subject from defaulting into an emphatic human subject.⁵

CO-CONSTITUTIVE WEATHERING

In their 2014 article ‘*Weathering: Climate Change and the “Thick Time” of Transcorporeality*’, Astrida Neimanis and Rachel Loewen Walker propose to create ‘weathering’ as a concept ‘to counter the fallacy of a bifurcated understanding of “nature” and “culture” — or of weather and humans.’⁶ They draw on feminist new materialist and posthumanist approaches that highlight the fundamental entanglement, mutual imbrication, and inseparability of ‘human and nonhuman natures.’⁷ In particular, they invoke Stacy Alaimo’s notion of ‘transcorporeality’, which stresses ‘the extent to which the substance of the human is ultimately inseparable from “the environment”’,⁸ and propose an ‘understanding of ourselves as weather bodies’.⁹

We seek to cultivate a sensibility that attunes us [...] toward ourselves and the world as weather bodies, mutually caught up in the whirlwind of a weather-world, in the thickness of climate-time. In short, as *weathering*.¹⁰

5 In other words, the general strategy could be described as countering a dualism of substance, which would oppose the human to the nonhuman, by a dualism of method — or more precisely a complementary of methods, which takes the risk of universalizing both anthropomorphism (or vitalism) and mechanism in order to attend in either case to the emergence of differences that have not been pre-supposed.

6 Astrida Neimanis and Rachel Loewen Walker, ‘Weathering: Climate Change and the “Thick Time” of Transcorporeality’, *Hypatia*, 29.3 (2014), pp. 558–75 (p. 560) <<https://doi.org/10.1111/hypa.12064>>.

7 *Ibid.*, p. 563

8 Stacy Alaimo, *Bodily Natures: Science, Environment, and the Material Self* (Bloomington: Indiana University Press, 2010), p. 2 cited by Neimanis and Loewen Walker, ‘Weathering’, p. 563.

9 Neimanis and Loewen Walker, ‘Weathering’, p. 560.

10 *Ibid.*, p. 561.

Neimanis and Loewen Walker seek to radicalize their notion of weathering further by drawing on Karen Barad's theory of 'intra-action', according to which separable entities (onto)logically do not precede their relations but co-emerge through them. While Alaimo's transcorporeality allows for relations of contiguity, continuity, or immersion, they maintain that intra-action clarifies the claim that 'humans and nonhuman climate and weather phenomena are co-constitutive. We are mutually emergent, coextensive. Together, we *weather* the world.'¹¹

Moving from 'Transcorporeal Weather' to 'Transcorporeal Temporalities', Neimanis and Loewen Walker enlist the notion of intra-action to radicalize the collapse and co-constitution of distinctions even further and extend them to space, time, and matter. The principal target remains the belief that human bodies can be separated from their environment. They had already made the intriguing and subtle suggestion that it is not enough to speak of immersion: 'the weather and the climate are not phenomena "in" which we live [...] but are rather of us, in us, through us.'¹² Referring to Claire Colebrook's observation that 'our attempts to externalize climate deny the fact that we are already entangled in its forces and flows', they now move to a critique of the 'exteriorization' and 'spatialization of time'. In particular, they object to narratives of sustainability, progress, or apocalypse that 'rely on a linear earth time where past, present, and future make up a time-line of human progression'.¹³ It is in order to counter such an exteriorization and spatialization of time that Neimanis and Loewen Walker turn again to Barad's notion of intra-action to consider 'the co-constitutive functionings of matter and meaning that collapse any notion of distinct space and time into an "iterative becoming of spacetime-mattering"'.¹⁴ Shifting attention towards non-spatialized temporalities thus ends up involving the collapse of all distinctions — of and within space and time as well as matter and meaning into what one might well call space-

11 Ibid., p. 564.

12 Ibid., p. 559.

13 Ibid., pp. 569 and 567.

14 Ibid., p. 569, quoting Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), p. 234.

timematteringsemiosis¹⁵ — so as to be able to think their intra-active co-emergent co-constitution.

The move from ‘Transcorporeal Weather’ to ‘Transcorporeal Temporalities’ does not imply that Neimanis and Loewen Walker abandon weathering. On the contrary, it is meant to lead them deeper into weathering as ‘the intra-active process of a mutual becoming’ through which ‘humans and climate change come to matter.’ Thus, they make the striking claim that ‘matter is *weathering* in its making of temporality.’¹⁶ Such a concept of weathering ‘means to think of bodies as part and parcel of the making of time [...]. Our very bodies, thoughts, actions, and behaviors make the present, past, and future.’¹⁷ Understood as a ‘making of temporality’, weathering leads them to the provocative ‘claim that we *are* time’ — or at least to the notion of ‘a time that we weather together.’¹⁸

Time, here, has taken the place of the world in the rallying cry ‘Together we *weather* the world’. Such formulae are intriguing and highly suggestive, but upon closer inspection, the sense of weathering emerging from them is quite ambivalent, difficult to ascertain, and hard to retain. Indeed, they may serve rather as examples for the difficulty of fully grasping the ‘profound conceptual shift’ that the notion of intra-action represents in Barad’s own words. Whereas the more common idea of ‘interaction’ presumes the ‘prior existence of independent entities or relata’, the notion of ‘intra-action’ insists that ‘relata do not preexist relations’ and claims instead that they ‘emerge through specific intra-actions.’¹⁹ Such a definition of intra-action is both compelling and easily repeated. However, articulating or even just thinking relations without preexisting relata — or, for that matter, the very notions of ‘preexisting’, ‘preceding’, or processes of co-emergence without a linear (temporal or logical) order — remains hard without getting seduced by the duplications, separations, and reifications of language.

15 Other than ‘spacetimattering’, Barad often uses ‘ontoepistemological’ and occasionally ‘ethico-onto-epistemology’ (Barad, *Meeting the Universe Halfway*, p. 409n10).

16 Neimanis and Loewen Walker, ‘Weathering’, pp. 560 and 569.

17 *Ibid.*, p. 569.

18 *Ibid.*, p. 570.

19 Barad, *Meeting the Universe Halfway*, pp. 139–40.

A sentence such as ‘Together, we weather the world’ no doubt describes a relational process, but insofar as it has a clear subject-predicate-object structure, it invariably conveys the sense that these identifiable, distinct elements precede their relation in the sentence. As Neimanis and Loewen Walker had previously defined ‘weathering’ as ‘mutual worlding’, the sentence should be read as ‘Together, we mutually world the world’, which becomes even more redundant and tautological if one remembers that ‘we are the world’ insofar as ‘humans and nonhuman climate and weather phenomena are co-constitutive’ and ‘we are mutually emergent, coextensive’. In other words, by identifying the relata preceding the relation, one arrives at a triplicating but also manifestly circular ‘The world worlds the world’, while what emerges from the original formulation is not only the separation of ‘we’ from the ‘world’, but also a subject-object relation with a defiant predicate resonating well with how weathering is commonly used as a transitive verb when one says, for instance, ‘the crew weathered the storm’.

My point here is not to criticize some particular, perhaps unfortunate formulations, but rather to note that when invoking intra-action to emphasize the ontological indeterminacy of anything preceding relations, one should not forget that this is only the premise for the claim that intra-action is meant to account for the co-constitution of separable entities. Such co-constituted entities seem to acquire strong, separable identities — stronger than what is suggested by contiguity, continuity, or immersion, which intra-action supposedly radicalizes. Indeed, the process of intra-active co-constitution is often referred to as a ‘coming to matter’,²⁰ but what is remarkable is that the co-constitution happens here in and through common language. If ‘Together, we weather the world’ has any referent and describes anything, it is the imaginary of a ‘we’, of a ‘world’, and of their mutual constitution that the sentence performatively produces. While the notion of intra-

20 Neimanis and Loewen Walker, ‘Weathering’, adopt this pervasive language of mattering in another formulation that works to equate weathering with intra-active processes: ‘it is through weathering — the intra-active process of a mutual becoming — that humans and climate change come to matter’ (p. 560). However, the premise and claim of intra-action that relata come to matter through the relation rather than preexisting it, is immediately contradicted by the subsequent sentence offering an alternative definition by way of conclusion: ‘Weathering, then, is a logic, a way of being/becoming, or a mode of affecting and differentiating that brings humans into relation with more-than-human weather’ (p. 560).

action may well succeed in dispelling the belief in separate entities being ontologically pre-given, it is far less clear to what extent new-materialist talk of mattering through intra-active, agential separation does not yield to the seduction of language of foiling subjects into everything and doubling or even tripling processes into a doing-doing or world-worlding world.

Again, there is much to be said for taking the risk of anthropomorphizing in order to help balance the alternative risk of anthropocentrism, but it requires critical, methodological self-reflection if the twin risks are to be avoided. The problem with the way in which Neimanis and Loewen Walker create the concept of weathering is not so much that it involves a performative contradiction, which as such may well be unavoidable if language is always performative and enacts divisions into separable entities that appear to have pre-existed their (linguistic) relation.²¹ Such a temporal entanglement, whereby language produces what it presupposes, could well be considered part of their critique of 'linear time' and correspond to the 'cultivation of the sensibility of thick time' they propose and describe. However, what would warrant critical reflection is the deliberate gesture of 'concept-creation',²² which implies sovereign, anthropocentric subjects that can create a concept such as 'weathering' *ex nihilo* (even as it explicitly draws on theoretical sources) and disregard the multiple significations that centuries of language use have sedimented into that signifier.

Disclaimers here seem insufficient and function rather as disavowals, denials, or negations in Sigmund Freud's sense of *Verneinung*,²³ as when the authors distance themselves from both anthropomorphism and human exceptionalism,²⁴ but otherwise quite consistently seek to reduce distances and deny the relevance of scale, thereby suggesting a

21 For an attempt to move beyond this logic of presupposition arguably characterizing the experience of language from Aristotle to Derrida, see Damiano Sacco's chapter 'The Weathering of the Trace: Agamben's Presupposition of Derrida' in this volume.

22 Neimanis and Loewen Walker, 'Weathering', p. 560.

23 Highlighting the difficulty of retain the ambiguity of this term in translation, Jean Laplanche and Jean-Bertrand Pontalis, *The Language of Psycho-Analysis* (London: Hogarth, 1973) conclude their entry on negation, *Verneinung*, (dé)negation by highlighting three closely related assertions in Freud's analysis: 'taking cognizance of what is repressed' and engaging in 'a kind of intellectual acceptance of the repressed', and 'thinking frees itself from the restrictions of repression' (p. 263).

24 Neimanis and Loewen Walker, 'Weathering', pp. 563–64.

strict symmetry and even equivalence in relations of mutuality and in figures such as ‘weather bodies’. In particular, they explicitly question common distinctions between climate and weather based on different time-scales and aim ‘to reduce the distance between the enormity of climate change and the immediacy of our own flesh’, or again they propose to ‘bridge the distance of abstraction [which they criticize in climate discourse] by bringing climate change home.’²⁵

Similarly, Barad’s disclaimer that she does not intend to ‘make general statements [...] about all entanglements, nor to encourage analogical extrapolation from [her] examples to others’²⁶ sits uneasily with the far-reaching consequences she and others draw from the notion of intra-action as ‘mutual constitution of entangled agencies’. After all, Barad’s neologism is only spelled out and specified in a precise, technical sense for the example of quantum diffraction experiments and their interpretation in terms of Niels Bohr’s particle-wave complementarity. Barad’s point that quantum entanglement is not limited to microscopic scales and can therefore apply also on macroscopic scales in a literal rather than analogical manner, is well taken, but in practice, when entanglement is invoked to deny the relevance of scale, literality seems to be a question of language rather than physics.²⁷

Seeking to negotiate between conflicting risks perhaps always runs the worse risk of disavowal, that is, of glossing over internal tensions, while reproducing what is to be avoided. Immunizing itself against critique, disavowal fosters a voluntarist decisionism concerning, for instance, the question of when separability is to be rejected in favour of

25 Ibid., pp. 562 and 559. The formulation ‘bringing home’ is introduced indirectly through the initial reference to Rachel Slocum, ‘Polar Bears and Energy-Efficient Lightbulbs: Strategies to Bring Climate Change Home’, *Environment and Planning D: Society and Space*, 22 (2004), pp. 1–26.

26 Barad, *Meeting the Universe Halfway*, p. 74.

27 In addition to the ‘caveat’ on using weather and climate interchangeably — justified by suggesting that distinguishing time scales means to ‘promote a spatialized view of climate time’ — there are further examples of disclaimers that I would read as disavowals, that is, as acknowledging that there is something to what is explicitly denied. For instance, there are the caveats that the ‘shift away from the “stop climate change” temporal narrative is not for us a weakening of possibilities for ethico-political engagement’ and that their proposal does not seek to ‘denigrate other feminist analyses of climate change that underline the gendered, racialized, and colonial power politics at play’ (‘Weathering’, p. 561), or the ‘clarifications’ in which Neimanis and Loewen Walker distance themselves from holism and from a perspective on processes ‘bound to the human mind’ (ibid., pp. 570–71).

inseparable entanglements and when it is to be embraced as the mode in which anything ‘comes to matter’. In order to negotiate conflicting risks, it may be better to focus on the opportunities that are in apparent conflict and envisage the possibility of fully endorsing heterogeneous accounts, even if they are mutually incompatible and cannot be pictured together. Such a possibility is envisaged by Bohr’s principle of complementarity, which plays a decisive role in Barad’s inspiring advancement of the diffractive methodology that Donna J. Haraway had proposed as alternative to ‘reflection’. While I find the development of an ontology of indeterminate matter through a method of complementary diffraction compelling, I would highlight that this approach crucially relies on disparate scales and insist on retaining the *method* across different scales and fields rather than extrapolate the *ontology* linearly or even simply unchanged. In particular, it may be productive to think of the relation between the weather and human bodies, nature and culture, physics and language as entangled and perhaps even in some sense as intra-active, but not in the same sense in which electrons are entangled and materialize through the measurement process: unlike entangled electrons, each side of the relation has already come to matter — if anything ever does.

The weathering article by Neimanis and Loewen Walker makes it admirably transparent that the appeal of new-materialist theories and notions such as intra-action often lies in opening up possibilities by enabling a ‘new imaginary’ — a way to ‘reimagine our bodies’, ‘reimagine climate change’, and ‘reimagining our literal inextricability from that towards which we are called to respond’ — rather than in providing a less human-centred, somehow more direct account of matter. No doubt, the ‘reimagination of ourselves as weather bodies [...] is *already a politics*’.²⁸ However, it is more difficult to see how a politics of reimagination and intensive feeling can be reconciled as such with the declared premises and aims of new-materialist and posthumanist approaches, such as the explicit critique of human exceptionalism and of the bifurcation of nature and culture. At least in its general outline, it ultimately seems rather to be a fully anthropocentric, humanist, even idealist politics. Perhaps in response to such reservations, the 2018

28 Neimanis and Loewen Walker, ‘Weathering’, p. 572.

article ‘Weathering’, which Neimanis co-authored with Jennifer Mae Hamilton, appears more anchored and explicit in associating weathering with ‘specific feminist, antiracist and decolonial intersectional attentiveness.’²⁹ For instance, it exemplifies its expanded, ‘natural-cultural’ understanding of the weather by making contact with Christina Sharpe’s notion of weather as ‘totality of our environments’ and ‘total climate’ characterized as ‘antiblack’, and helpfully situates weathering ‘between the neo-liberal heroics of resilience and the victim politics of vulnerability.’³⁰ In these contexts, the image of intra-active, co-constitutive weathering is particularly provocative, and while probing its specific political potential falls beyond the purview of this chapter, I will concentrate on exploring its logic both on the level of language and on the level of physical reality to which Barad’s argument lays claim.

WEATHERING THE DICTIONARY

Creating weathering as a concept of co-constitutive worlding is provocatively counter-intuitive insofar as both ‘co-constitution’ and ‘worlding’ suggest constructive processes. Even if one takes these processes also as undermining the autonomy of the subject, the most common use of the noun ‘weathering’ is rather more destructive: The Oxford English Dictionary (OED) defines the noun as the ‘action of the atmospheric agencies or elements on substances exposed to its influence; the discoloration, disintegration, etc. resulting from this action.’³¹ However, especially the verb ‘to weather’ is actually remarkably ambivalent. Now usually associated with disintegration, deterioration, and decay — or at least the risk thereof — its first meaning was ‘1. to subject to the beneficial action of the wind and sun; to air.’³² The subentries in the OED indicate that ‘weathering’

29 Astrida Neimanis and Jennifer Mae Hamilton, ‘Open Space Weathering [sic, according to the journal’s citation recommendation]’, *Feminist Review*, 118.1 (2018), pp. 80–84 (p. 83) <<https://doi.org/10.1057/s41305-018-0097-8>>.

30 Neimanis and Hamilton, ‘Weathering’, pp. 81 and 83, Christina Sharpe, *In the Wake: On Blackness and Being* (Durham, NC: Duke University Press, 2016), p. 104.

31 ‘weathering, n.’, in *OED Online* (Oxford: Oxford University Press, 2020) <<https://www.oed.com/view/Entry/226660>> [accessed 10 May 2020].

32 ‘weather, v.’, in *OED Online* (Oxford: Oxford University Press, 2020) <<https://www.oed.com/view/Entry/226641>> [accessed 22 February 2020].

was initially understood as a cultural technique encountered in such diverse contexts as hawking (the ‘sport or practice of chasing birds or small animals by means of trained hawks’), house- and farm-work (airing linen, drying harvested crop), or handicraft (exposing clay for brick- or tile-making).³³

While the second meaning is formulated quite neutrally in terms of a change through exposure, the several sub-entries indicate that a complete reversal to the weather’s detrimental effects has taken place:

2. To change by exposure to the weather
 - a. *transitive*. To wear away, disintegrate, or discolour by atmospheric action. [...]
 - b. *intransitive*. To become worn, disintegrated, or discoloured under atmospheric influences. [...]
 - c. In passive, esp. of a crop: To be deteriorated by too long exposure to bad weather.
 - d. *intransitive*. To wear (well or ill) under atmospheric influences.

The final sub-entry (2d), which could suggest a return to a neutral sense of change, only serves to confirm the full reversal in relation to the beneficial weathering of hawking and other cultural techniques. Indeed, ‘wearing well’ merely seems to mean ‘wearing less badly’, and the only sample phrase is: ‘For outside work, boiled oil is used, because it weathers better than raw oil.’

Subsequent entries, which often invoke a nautical context, entail another kind of reversal without entirely restoring the initial, beneficial meaning.³⁴ Weathering here refers to the ability to resist or escape detrimental, even disastrous effects: ‘to get safely round’ (3b), ‘to withstand and come safely through (a storm)’ (4a), ‘to sustain without disaster’ (4b), or ‘to pass through and survive (severe weather)’ (4c). The previous meaning of weathering as a deteriorating change is implied here as a threat or risk, but the verb is now used in an opposite sense, namely as successful opposition to such a change.

33 ‘hawking, n.1’, in *OED Online* (Oxford: Oxford University Press, 2020) <<https://www.oed.com/view/Entry/84775>> [accessed 6 June 2020].

34 The nautical associations of weathering are emphasized by the Marlon Miguel’s chapter ‘Representing the World, Weathering its End: Arthur Bispo do Rosário’s Ecology of the Ship’ in this volume.

The final, rather specialized meanings listed in the OED return to specific cultural techniques. One of them is directly beneficial, namely '6. To set (the sails of a windmill) at the proper angle to obtain the maximum effect of the wind-force'; while the other one consists again rather in avoiding detrimental effects, namely the technique in architecture 'to slope or bevel (a surface) so as to throw off the rain' (7).

Of course, many words are polysemic, but the OED definitions suggest that the verb 'to weather' may be regarded, more radically, as enantiosemic, that is, as having mutually opposite meanings. Such words, which are their own antonyms, are more common than one might expect, and include in English, for instance, 'to cleave' (to adhere or separate), 'to sanction' (to approve or penalize/boycott), or 'to rent' (to purchase use of something or sell it).³⁵ The verb 'to weather' is even more peculiar insofar as it can be said to be doubly enantiosemic and confound oppositions both of activity and quality: Usually signifying a deteriorating change, it can also mean, on the one hand, successfully opposing such a change and, on the other hand, undergoing a beneficial change.

While context often clarifies the intended meaning, the coincidence of opposites in a single word remains highly unstable. Sometimes, enantionyms are true homonyms, that is, words that have different etymological origins and just happened to have become homographs and homophones in the course of linguistic evolution.³⁶ But the possibility of opposite meanings coming together in a word through condensation, contraction, reduction, or equivocation can also be indicative or evocative of a generative kernel from which such oppositions have emerged in the first place and from which diverse meanings continue to emerge. The puzzling, vertiginous implications of such productivity appears reflected in the ongoing proliferation of terms proposed to name this category of words: from 'Janus word', which seems to be the only one to have found its way into the OED, to 'self-antonym', 'auto-antonym' or 'autantonym', 'con-

35 Mark Nichol, '75 Cononyms (Words with Contradictory Meanings)' <<https://www.dailywritingtips.com/75-cononyms-words-with-contradictory-meanings/>> [accessed 15 June 2020]. The list includes 'Weather: To withstand, or to wear away'.

36 See 'Janus Words', Online Etymology Dictionary (2019) <<https://www.etymonline.com/columns/post/janus-words>> [accessed 15 June 2020]. An often-cited example is 'to cleave'.

tronym' or 'contronym', as well as 'enantionym', 'enantiadrome', and 'antagonym'.³⁷ Going further back, there is the notion of 'primal words [Urworte]', Carl Abel's thesis of their 'antithetical meaning [Gegensinn]', and the analogy that Sigmund Freud establishes with the logic and language of dreams.³⁸ Highlighting that a 'no' does not seem to exist for dreams, which 'feel themselves at liberty, [...] to represent any element by its wishful contrary', Freud notes:

[T]he most ancient languages behave exactly like dreams in this respect. In the first instance they have only a single word to describe the two contraries at the extreme ends of a series of qualities or activities [...]; they only form distinct terms for the two contraries by a secondary process of making small modifications in the common word [Urwort].³⁹

Without necessarily endorsing Abel's and Freud's claims concerning the historical evolution of languages and acknowledging that many enantiosemic words have separate etymologies that only happened to converge into single words, I maintain that the double enantiosemy of 'to weather' is more than a contingent, historical accident. Instead, my suggestion is that it is indicative of an undecidability that lies at the heart of the fraught relationship humans entertain with their environment and allows for manifold articulations. While such an understanding of weathering resonates with the concept Neimanis and Loewen Walker develop by drawing on contemporary theories of transcorporeality and intra-action, I consider it as a case less of 'concept-creation' than of learning from the experience and peculiar logic sedimented and implied in the word's enantiosemic uses. If the appeal of weathering lies in its generativity and beneficial potentials,

37 Cf. Burcu I. Karaman, 'On Contronymy', *International Journal of Lexicography*, 21.2 (2008), pp. 173–92 <<https://doi.org/10.1093/ijl/ecn011>>, David-Antoine Williams, 'Poetic Antagonyms', *The Comparatist*, 37.1 (2013), pp. 169–85 <<https://doi.org/10.1353/com.2013.0009>>.

38 Carl Abel, *Über den Gegensinn der Urworte* (Leipzig: Verlag von Wilhelm Friedrich, 1884) and Sigmund Freud, *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, 24 vols (London: Hogarth, 1953–74), iv: *The Interpretation of Dreams (1900)* (1953), p. 318.

39 Freud, *Interpretation of Dreams*, pp. 318–19. Concerning primal words, Freud also suggests that what is today symbolically related was 'probably united in prehistoric times by conceptual and linguistic identity' and draws on Hans Sperber's thesis on the sexual reference of all primal words (p. 352).

a critical question is understanding the conditions under which the effects of weathering may reverse from detrimental to beneficial and may open possibilities beyond such cultural techniques as hawking and setting sails. The weather sciences and ultimately physics are no doubt indispensable for understanding the conditions of beneficial weathering, but the conditions are also a matter of politics, of socio-economic and cultural values, of psychology, and ultimately of language, which structures thought and experience. While this chapter remains focused on weathering's language, I seek to develop it in ways that may resonate and interfere with its physics.

ANTHROPOCENTRIC GRAMMAR OF WEATHERING

Whereas the OED traces the historical development of word use, the Merriam-Webster dictionary (MWD) takes a more systematic, grammatical approach. It distinguishes on a first, hierarchical level between transitive and intransitive uses of the verb, and then, on a second level, between two transitive meanings:

transitive verb

1: to expose to the open air: subject to the action of the elements

2: to bear up against and come safely through

//weather a storm

//weather a crisis

[3] intransitive verb

: to undergo or endure the action of the elements.⁴⁰

This scheme can help clarify the grammar of weathering by being more consistent than the OED, which likewise organizes different meanings on two levels and foregrounds the transitive/intransitive distinction, but uses this distinction on both levels and entangles it with other categories such as 'passive' or even 'figurative', 'nautical', and 'architecture'. For example, the OED entries one and four have the heading 'transitive' and five is entitled 'intransitive', while three is entitled 'nautical'

40 'Weather', in *Merriam-Webster.com Dictionary* (Springfield, MA: Merriam-Webster, 2020) <<https://www.merriam-webster.com/>> [accessed 20 February 2020].

and has subheadings ‘3.a. transitive’, ‘3.d. intransitive’, and ‘3.b. figurative.’⁴¹ Clearly, ‘figurative’ or ‘nautical’ exclude neither each other nor the categories of ‘transitive’ or ‘intransitive’. Indeed, in this case the figurative use ‘to get safely round’ is not just transitive but corresponds well to Merriam-Webster’s second transitive meaning of ‘to bear up against and come safely through’.

The simplicity of the MWD scheme is deceptive and would require considerable commentary to unfold all its implications. No doubt, the historical use of weathering is richer and more nuanced, but I would like to give some indications of how the MWD’s compact grammatical scheme suggests another story, one that is less historical than logical, reductive, but also constructive, ultimately leading to a generative kernel of indistinction and the possibility of as yet uncommon uses.

The compact three-fold definition formalizes well the double reversal from beneficial to detrimental exposure via successful resistance on which I have already remarked. However, what is perhaps most significant is that the MWD definitions conjure up an anthropocentric division of nature and culture. The grammatical subject of weathering indeed always seems to be human or an object of human interest, such as ships that have weathered storms. It is true that one can also speak of rocks that weather even if they have no specific human interest. But although there is a sense in which the activity of the weather or, more generally, ‘the action of the elements’ are always implied, the possibility of the elements becoming the subject of weathering is not envisaged. In other words, weathering is an anthropocentric predicate insofar as it excludes the weather or the elements as core argument in the subject function.

One might say that weathering denies the agency of the elements by excluding them from the subject position, but my claim concerning the anthropocentric bias of weathering needs to be articulated more carefully. After all, one could say that the elements are excluded as subjects only because their action is taken for granted and already implied in the predicate ‘to weather’. Yet, as already mentioned, a characteristically anthropocentric mode of relating to nature is precisely to take

41 Altogether, the OED has seven headings on the first level and fifteen subheadings on the second level. Some first level entries have no subdivision and others as many as four.

nature for granted as a (back)ground for the figure of the human and their actions.⁴² This also means that emphasizing the activity or even agency of nature is insufficient to counter anthropocentrism. There is indeed good reason to maintain that the elements are the primary source of all weathering activities, while humans are at best reactive if not entirely passive. But such a simple reversal of activity and passivity merely re-affirms the anthropocentric nature-culture divide as long as it involves predicates that enforce that divide. In other words, weathering is anthropocentric not because it denies agency of the weather as such — it does not preclude the existence of other predicates taking the weather as active subject — but insofar as it is premised upon a divide such that the weather is contained in the predicate (and possibly other arguments the predicate controls), but excluded as subject.

This analysis of weathering's anthropocentric bias indicates a possible strategy for countering it, namely to insist that there is no pre-given divide that would preclude the weather as subject of different forms of weathering; to expand accordingly the use of weathering at the risk of anthropomorphism; and thereby to allow for an exploration of how nature and culture may be understood as more entangled and/or became separated through weathering.

The OED actually allows for such an expanded use of weathering with some qualifications. As already mentioned, it includes the transitive use 2a 'to wear away, disintegrate, or discolour' and gives a couple of examples in which atmospheric phenomena or processes such as clouds, smoke, or percolation do the weathering.⁴³ At the same time it notes that the verb is then 'chiefly in *passive*', meaning that the agent

42 Cf. Neimanis and Loewen Walker, 'Weathering', which repeatedly opposes the tendency to externalize weather or climate: 'When we hold onto the belief that we can separate our human bodies from climate (close our doors, resist the winds), we maintain a worldview of relating *to* the earth, rather than worlding *with* it. As Colebrook has argued, our attempts to externalize climate deny the fact that we are already entangled in its forces and flows' (p. 567, emphasis in the original); 'The consequence of time's exteriorization is that, we, as bodies, are conceived as only ever in time, subject to forces that carry on beyond and outside of us. The weather/environment serves only as background, thus making for a particular mode of relating to the earth, as though human beings are somehow separate from the natural elements' (p. 568).

43 The sample phrases are: 'The rain-cloud hangs low..overhead; the smoke hovers around; and they weather the fines sculptured surface' and 'It [sc. percolation] acts also very powerfully in weathering the rocks through which the water passes' ('weather, v.', in *OED Online*; ellipsis and square bracket in the original).

is in a peripheral function or omitted entirely: the rock is weathered by persistent rain or it is weathered *tout court*.⁴⁴ While one sees here how the agency of the weather is at once presumed and pushed into the background, this is only the beginning of what becomes visible and available to analysis when this less common use of weathering is included. In particular, I would like to ask to what extent this use of weathering is distinct from the other uses or can be related to them, and ultimately what the different weathering verbs have in common other than their name.

AMBIVALENT WEATHERING OF A STORM

I propose to augment the three-fold scheme of the Merriam-Webster dictionary by explicitly adding the missing transitive use of weathering, which takes the weather or the elements as subject, and place it alongside the second transitive meaning of weathering (see Table 1 below). Sample sentences of these two uses have the same basic subject-predicate-object structure and differ only insofar as the weather is, in one case, the object and, in the other, the subject. Corresponding formally to a simple interchange of subject and object, they can be combined into a single, seductively simple sentence, such as: 'I weather the storm as the storm weathers me.'⁴⁵ This sentence could well be taken as paradigmatic for a transitive sense of weathering that relates nature and culture without being anthropocentric. Indeed, the sentence suggests symmetry, relationality, mutuality, perhaps even a form of co-constitution.

44 Of the seven examples for this entry 2a, only the two quoted in the previous footnote are in the active voice. Curiously, the transitive definition 2a itself already has the 'atmospheric action' in a peripheral position: 'to wear away [...] by atmospheric action' or indeed 'to change by exposure to the weather'. It is as if the transitive subject were here not atmospheric action or the weather but once again human beings, that is, as if the whole second definition were ultimately just the malignant counter-part to the first definition of 'subjecting to the beneficial action of the wind and sun'.

45 Note that dictionaries tend to define verbs without specifying the subject, as if the verbs could be universally used for any subject, while they do often specify the kind of object that comes with certain uses: 'to air (linen, etc.)'; 'to expose (land, clay for brick- or tile-making)'; 'To set (the sails of a windmill)'; 'to slope or bevel (a surface)'; etc. In order to mark the anthropocentrism veiled by the universalism of the subject, I find it necessary to specify not only the object but also the implied subject, using in this case 'I' and 'the storm'.

However, there is something instructively wrong here — not in the introduction of posthumanist weathering nor in the sentence combining it with the more common, anthropocentric transitive use, but in being led astray by the polysemy of both the predicate ‘weathering’ and the conjunction ‘as’, which here should be read temporally or causally rather than as establishing an equivalence. I may manage to weather the storm while it weathers me, but I do not weather it ‘just as’ it weathers me.

The suggestion of symmetrical co-constitutional relations is actually plausible for similar sentences with predicates such as fighting or attracting: A arguably cannot fight, attract, or repel B if B does not also fight, attract, or repel A — at least not if one understands such verbs in a mechanical sense cohering with Isaac Newton’s third law ‘actio=reactio’: every action not only elicits a reaction but is precisely equal (and opposite) to it, which means, among other things, that neither comes first, and it is arbitrary which one is called action and which reaction. A simple example would be the mutual gravitational attraction between earth and moon, or the (electromagnetic) repulsion preventing a building from falling to the centre of the earth and keeping it on the ground.

However, applying Newton’s third law can be tricky. The law resonates strangely with Michel Foucault’s dictum ‘[w]here there is power, there is resistance’ and with his relational understanding of force and power that views resistance as a condition for power relations rather than a passive reaction to a power that that would precede it.⁴⁶ Yet, a balance of attractive and repulsive forces between two bodies by no means implies that a building could not collapse under its own weight. Two different kinds of forces, such as gravity and electromagnetism (ensuring rigidity), are at work here, and there is no law of equality or reciprocity for their relationship. Instead, they are quite independent from one another, each action eliciting a reaction in the other body, and there is equilibrium only if and when they balance each other out.

46 Cf. Michel Foucault, *The History of Sexuality* (New York: Pantheon, 1978), 1: *An Introduction*, pp. 92–97.

I may weather the storm while it weathers me, but there is no guarantee that I will succeed: although the two instances of weathering in this sentence are equally transitive, they do not only exchange subject and object but also have no necessary relationship between them. [To this extent we are far from being coextensive, let alone co-constitutive.] The deceptive symmetry can be grasped even more compactly through the ambivalent formulation of ‘the weathering of a storm’. Grammatically, the genitive can be subjective or objective, that is, it can be the agent or the patient to yield a storm that weathers things or a storm that is being weathered. There may be symmetry in grammar but there is none in the action. The difference here is not so much in scale — a storm is generally much larger than anything that may weather it — but in kind: a storm threatens everything within its scope with death and destruction, whereas that which weathers the storm only saves itself and need have no effect on the storm.

Transitive weathering thus splits into two meanings that are quite independent from one another even if they are equally relational and mutually opposed. To make this explicit, one could write as defining phrase ‘ 2α I weather the storm while 2β the storm weathers me.’ The grammatical reversibility of weathering — the possibility of interchanging subject and object in its transitive use — therefore does not imply relations of symmetry, mutuality, and co-constitution, as it does with verbs for fighting or mutual attraction and repulsion. Instead it is the result of weathering’s specific enantiosemey that makes it appear as its own reciprocal complement. What I mean by this is that transitive weathering behaves in many ways like predicates that change into a contrary, reciprocal predicate when their subject is interchanged with another argument and that form couples such as ‘attack–defend’, ‘inflict–suffer’, or ‘show–watch’, except that it takes the same word for both meanings. In other words, the grammatical reversibility of weathering implies the couple ‘ 2α weathering– 2β weathering’, where 2α weathering involves self-preservation, sustained identity, and survival, and 2β weathering denotes destruction, disintegration, and death. Reducing even further, an equation of life and death could be said to lie at the core of weathering’s enantiosemey.

FANTASY AND WEATHERING WEATHERING

Insisting on transitive weathering as enantiosemic and split into two different meanings is ambivalent insofar as it can both re-enforce ontological divisions and suggest different strategies of countering them. The division is reproduced if the contrary meanings are understood to be uniquely determined by the subject, that is, if a human(-centred) subject implies self-preserving 2^{α} weathering and an atmospheric subject implies destructive 2^{β} weathering. However, the division is undermined by insisting not merely on the atmosphere's agency, but on the possibility of human and non-human agents each being capable of being the subject of both 2^{α} weathering and 2^{β} weathering.

The enantiosemy of weathering — joint by common use and experience — makes it rather difficult to imagine and convey the possibility that I could weather the storm just as it weathers me, that is, that I 2^{β} weather it, wear it out, and make it decay; or that the storm could weather me just as I weather it, that is, that it 2^{α} weathers me, resists being worn out, and safely comes through all my attempts to annihilate it.

At the same time, the enantiosemy of weathering may be suggestive in indicating that such exercises in logical permutations and pedantic differentiations may be unnecessary and that there actually is a continuity between contrary meanings, that is, that some common, perhaps non-differentiated, ground exists from which they emerge. While such a continuity goes counter a logic of non-contradiction and is therefore hard to think, it can be dreamt and, in some languages, also said.

What I am proposing here is that the enantiosemy of weathering, its multiple reversals, and grammar can be read with Freud's remarks on antithetical primal words in his *Interpretation of Dreams* and his analysis of the vicissitudes of drives, which he tightly links to 'grammatical transformations'.⁴⁷ At one point, he derives masochism from sadism, which he considers as a 'pair of opposites', through a change from active to passive aim, which he calls 'reversal into its opposite', and through an interchange of subject and object, which he describes

47 Jean Laplanche, *Life and Death in Psychoanalysis*, trans. by Jeffrey Mehlman (Baltimore, MD: Johns Hopkins University Press, 1976), p. 143n7.

in two steps: first, the object of sadism is given up through a ‘turning round upon the subject’s own self’ and secondly, another person is sought to take over the role of the subject. Noting that only the final stage corresponds to what is commonly called masochism, Freud also highlights the necessity of assuming the existence of the intermediate stage, which he explicitly describes in grammatical terms as a change from the ‘active voice [...] not into the passive, but into the reflexive, middle voice.’⁴⁸

Jean Laplanche scolds Freud here for clouding his remarkable grammatical analysis by confusing the reflexive voice (e.g., to hit oneself) and the middle voice, which is somehow between or beyond the active and the passive. Unlike Ancient Greek, English and most other modern language have no verb form for the middle voice, but Romance languages, for instance, often approximate it through a particular use of the reflexive. Laplanche invokes the French example ‘se cogner [to knock oneself]’ and distinguishes between an accidental knocking oneself against a chair in the dark (corresponding to the middle voice) and an intentional knocking of one’s head against the walls (which is more properly reflexive).

While Laplanche privileges the properly reflexive form for its clear distinction of subject and object over the middle form, where the terms ‘remain in something of a state of coalescence,’⁴⁹ in the context of my chapter, the intermediate stage between opposites is most promising precisely when it coalesces rather than distinguishes subject and object, activity and passivity. An intermediate stage characterized by a ‘reflexive, middle voice’ plays a pivotal role also in Freud’s discussion of the pair of opposites ‘scopophilia [voyeurism]—exhibitionism’, where he links this stage to a much earlier, autoerotic stage, which he understands as the ‘source of *both* the situations represented in the resulting pair of opposites.’⁵⁰

Questions of original autoeroticism and of a primary, reflexive masochism have been much debated as Freud remains notoriously

48 Freud, ‘Instincts and Their Vicissitudes’, in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, ed. and trans. by James Strachey, 24 vols (London: Hogarth, 1953–74), xiv: *On the History of the Psycho-Analytic Movement, Papers on Metapsychology, and Other Works (1914–1916)* (1957), pp. 109–40 (pp. 126–28).

49 Laplanche, *Life and Death*, p. 143n7.

50 Freud, ‘Instincts and Their Vicissitudes’, p. 130; emphasis in the original.

— but also overtly — ambiguous, contradictory, or undecided about them.⁵¹ In a beautiful essay on original fantasies, fantasies of origin, and origins of fantasy, Jean Laplanche and Jean-Bertrand Pontalis have insisted on this question for an understanding of the origin of sexuality in the properly psychoanalytic sense as a deviation from biological needs ‘into the field of fantasy’ and/or through a ‘breaking in of fantasy’.⁵²

Rather than speculating further on the onto- or phylogenetic origin of an emergent splitting off of a specifically psychoanalytical — and human — order from the order of nature, I will return to the MWD’s three-fold anthropocentric definition of weathering and my pairing of the central transitive definition with a weathering that — at the risk of anthropomorphizing — takes the elements as subject. Perhaps even more speculatively, I would like to propose that this scheme can tell another story, which, rather than by emergent splittings, proceeds by a progressive reduction that may well end up turning weathering into a primal weather verb that does not even have a subject.

PROGRESSIVE VALENCY REDUCTION

The story I propose progresses by reducing what linguists call a verb’s ‘valency’. This notion is taken from chemistry, where it indicates the number of bonds an atom can establish with other atoms such as hydrogen, and refers to the number of arguments controlled by a predicate. Transitive verbs are typically divalent — taking a subject and an object — or trivalent, when they also take an indirect object, while intransitive verbs are typically monovalent. Most languages have valency-lowering and valency-raising mechanisms, such as the passive

51 In a footnote added nine years later, in 1924, Freud just comments his rejection of the existence of primary masochism by saying: ‘In later works [...] I have expressed an opposite view’ (p. 128n2).

52 Jean Laplanche and Jean-Bertrand Pontalis, ‘Fantasy and the Origins of Sexuality’, in *Formations of Fantasy*, ed. by Victor Burgin, James Donald, and Cora Kaplan (London: Routledge, 1989), pp. 5–34 (p. 25). The original title, which I paraphrased, is ‘Fantasme originaire, fantasmes de origines, origines du fantasme’, *Les Temps Modernes*, 19.215 (1964).

1	I weather a hawk	3
2	α) I weather the storm as β) the storm weathers me	2
3	I weather	1
4	[It] weathers	0

Table 1. Definition of weathering on the basis of the MWD, making the implied subject explicit, splitting the second definition by adding 2β (see above), and adding an understanding of weathering as an avalent weather verb (see below). The number at the end of the lines indicate the verb's valency.

or reflexive, which lower the valency, or the causative, which raises it: 'to make someone do something'.⁵³

Like the historically oriented OED, the MWD begins with weathering as a cultural technique. Grammatically, this transitive use of weathering is divalent: in weathering a hawk or weathering linen there are two arguments: subject and object. Yet, as the definition 'to subject to the action of the elements' suggests, the verb's valency is effectively increased to three. Two agents indeed seem to be present, not only the grammatical, usually human, subject of the sentence, but also the weather, the air, the sun, or other atmospheric elements. Although grammatically divalent, the historically first use of weathering thus involves a triangulation: to weather hawks or linen means that one has the weather weather them.

On this view, the second transitive use of weathering involves a reduction of the number of predicate arguments, leading to a semantically as well as grammatically binary subject-object relation: to weather a storm or crisis. However, upon closer inspection, it is hard to see how this transitive use could be obtained from the first one through valency-reduction, which points rather to its opposite 2β : I weather a hawk = I have the elements weather a hawk \rightarrow the elements weather a hawk.

53 For an overview of the wide range of valency changing mechanisms and case studies in different languages, see *Changing Valency: Case Studies in Transitivity*, ed. by Robert M. W. Dixon and Alexandra Y. Aikhenvald (Cambridge: Cambridge University Press, 2000).

Proceeding to the third meaning in the MWD involves a further reduction of valency. In rocks that weather, there is a subject but no object and weathering as an intransitive verb is monovalent. Verbs that can be both transitive and intransitive are sometimes called ‘ambitransitive’ or ‘labile’ verbs.⁵⁴ But here, too, it is hard to see how such a use could be derived from the original transitive use 2α , whereas it comes rather easily from 2β : The storm weathers me = I am weathered by the storm \approx I am weathered \rightarrow I weather. There is something quite remarkable in the last step from the passive (which is already monovalent) to the intransitive insofar as grammatically it involves a reversal from the passive to the active. Yet, it is linguistically not that unusual and is the mode of valency reduction of so-called ‘patientive ambitransitives’. A standard example in English is the verb ‘to break’: I break the cup = The cup is broken by me \approx The cup is broken \rightarrow The cup breaks.

Adding the use 2β thus facilitates an understanding of the three-fold MWD scheme in terms of a progressive reduction of valency. In a way, this is just the result of 2β making explicit the ‘action of the elements’, which 1 and 3 take for granted but place in the background. One might indeed object that if one considered the first use (i.e., weathering hawks) as trivalent, one should now also say that the intransitive verb is effectively divalent insofar as the weather remains implied as agent. In other words, one might say that the use 2β was not entirely absent in the MWD but effectively contained in 3. If this observation can further the strategy of countering the anthropocentric nature-culture divide by insisting on the agency of the elements, I would now like to suggest that there is also something to be said for taking the grammatical reduction of valency from 2β to 3 more seriously.

While transitivity is premised upon a separation of subject and object, which easily aligns with nature and culture — regardless of whether one says ‘I weather the elements’ or ‘the elements weather me’ — intransitivity can do without a system–environment distinction and makes no reference to the environment. Is there not indeed a sense in which everyone and everything weathers and does so ‘by itself’, without any particular external influence? This would mean understanding intransitive weathering not as an implicit or ‘agentless’

54 Ibid., p. 4.

passive that disavows the ‘action of the elements’, taking it for granted and placing it in the background, but rather as a kind of reflexive or middle voice, perhaps as an activity that turns against itself when it finds no object, or, vice versa and more radically, as an ‘anticausative’ verb from which a subject-object distinction co-emerges without being implied.⁵⁵ It could even mean understanding intransitive weathering as a form of reflexive masochism or, with Freud’s re-articulation of primary masochism in *Beyond the Pleasure Principle*, as a manifestation of the death drive.

Weathering in this sense is a correlate of ageing or the passage of time, as Romance languages using the same word for ‘weather’ and ‘time’ suggest.⁵⁶ Even though some things age well and growing up and maturing are often welcomed, and even though some storms and crises may be weathered, deterioration, decay, and death appears as ineluctable fate of all temporal existence. In other words, ‘the action of the elements’ undergone or endured in intransitive weathering may well be just a way of speaking of a law of nature. A famous law quickly comes to mind: the second law of thermodynamics, the law of increasing entropy, which is often invoked to define the arrow of time.

Perhaps there is a good reason, then, that using weathering for ‘the action of the elements’ is uncommon and that this action is taken for granted or even dismissed. Not only would it be a pleonasm to say that ‘the weather weathers’, but following Nietzsche one could insist that the process of weathering is all there is and that a subject is added only out of grammatical habit producing a ‘doing doing’. ‘The weather’ and ‘the elements’ would then only be abstract fictions without real existence. All there is then is the process of weathering

55 Cf. Dixon and Aikhenvald on the distinction between the ‘prototypical passive’, where the agent is named, the ‘agentless passive’, where the agent is implied — ‘the glass is broken (implied: by someone)’ — and the ‘anticausative’, where an agent is neither stated nor implied: ‘the glass broke’ (p. 7). (In this case, the object is explicitly assumed as grammatical subject, and my suggestion of co-emergence gestures already further towards an avalent ‘it weathers’.) Concerning the term ‘middle’, the authors warn that it is used with a ‘frightening variety of meanings’ — including the anticausative and reflexive — lacks in ‘typological clarity’, and often amounts to a ‘(general) intransitivizer’ (p. 11–12).

56 On the association of weather and time, or weathering and change, see Niccolò Crisafi and Manuele Gragnolati’s chapter ‘Weathering the Afterlife: The Meteorological Psychology of Dante’s *Commedia*’ in this volume.

that takes place in everything — in the elements themselves — without the intervention of some subject or agent. In other words, weathering would be an avalent weather verb after all: ‘it weathers’, and even speaking of an ‘it’ may be already saying too much.

But what about the more positive meanings of weathering: the possibility of weathering storms and crises, or even the beneficial actions of the weather? Do they have an intransitive, even avalent correlate or substrate from which they can be imagined to emerge, or are they inherently bound to human subjects?

No doubt the positive evaluation of weathering is to a large extent anthropocentric. The outright beneficial character of the elements in the first use indeed seems due to cultural mediation — be it because we channel the actions of the elements, because the weathering is good for us but not the hawk (not to speak of sun-dried tomatoes or raisins), or because weathering hawks means temporarily lifting their confinement and putting them back in their element. Most strikingly, the OED counts the meaning ‘to expose [...] to the pulverizing action of the elements’ under the rubric ‘to subject to the beneficial action of the wind and sun’, which sounds violent and could even appear sadistic if the utility for ‘brick- or tile-making’ were not mentioned in my ellipsis.

However, there is also a sense in which beneficial weathering can be understood with respect to an entity’s identity, self, or unity as a system rather than human utility. Garments that are being weathered lose their odour and other contaminations, making them less susceptible to moths, for instance. Weathering here purifies; it takes off what is not essential, making the object more durable. Clothes that are dried in the open air do not rot, nor will grapes and tomatoes, for instance. Perhaps this weathering takes out some life — or the potential for unwanted life, like mould — but even disregarding human utility, it seems distinguishable from entropic processes of disintegration and dissipation that involve homogenization and a loss of structure and order. Indeed, it lays bare what persists, such as an underlying structure otherwise hidden under a superficial, perhaps only ornamental layer (as it is in plastered buildings or artworks).

In other words, weathering can accentuate a thing’s identity in its constitutive difference from the environment by enacting the differentiation of that which in it weathers and that which does not. Or, more

suggestively, weathering constitutes identity by enacting a differentiation between two kinds of weathering, between ‘what ³weathers’ and ‘what ^{2 α} weathers the elements’.

Again, one could insist that intransitive ³weathering is really a passive form that implies the environment as agent and therefore presupposes a self that is distinguished from the environment. But one might also take the valency reduction more seriously and extend instead the intransitive meanings of weathering. In this way, if I argued that the ordinary intransitive use of weathering forms with ^{2 β} weathering a patientive ambitransitive pair, ^{2 α} weathering could well be considered part of an agentive ambitransitive pair, where the intransitive simply omits the transitive object. Examples in English include eating but also winning. Not only does ‘to come safely through’ — the MWD definition for ^{2 α} weathering — resonate with winning, but it is also itself intransitive, and perhaps one can hear in intransitive weathering not just resignation but also defiance: ‘I weather!’⁵⁷

With such a doubling of intransitive weathering, a sense of identity becomes conceivable that relies not on a pre-given distinction from the environment — the subject-object opposition of transitive verbs — but that is instead constituted through the internal differentiation of ‘what ^{$\alpha\alpha$} weathers’ and ‘what ^{$\beta\beta$} weathers’. The additional superscript is necessary because one can also imagine another permutation of having the two transitive meanings of weathering enter the two varieties of ambitransitivity, arriving at both a ^{$\beta\alpha$} weathering and a ^{$\alpha\beta$} weathering of the elements (subjective genitive).⁵⁸ For a full account of self-constituted identity that does not rely on ontological divisions, the intransitive weatherings must not, of course, predetermine their

57 While defiant weathering may provide a (politically) unattractive model insofar as it approaches ‘neoliberal resilience’ (Neimanis and Hamilton, ‘Weathering’, p. 83) or a ‘macho model’ of subjectivity, which Crisafi and Gragnolati exemplify with Capaneus in Dante’s *Comedy* (‘Weathering the Afterlife’, p. 74), one can also think of the gay anthem during the AIDS pandemic ‘I will survive’, which its singer Gloria Gaynor adapted in 2017 for hurricane victims into ‘Texas Will Survive’, Twitter, 31 August 2017 <<https://twitter.com/gloriagaynor/status/903027825443254273>> [accessed 5 July 2020].

58 If ‘I ^{$\alpha\alpha$} weather’ comes from dropping the object in ‘I ^{α} weather the storm’ and ‘I am being ^{β} weathered [by the storm]’ leads to ‘I ^{$\beta\beta$} weather’, the storm can ^{$\beta\alpha$} weather by dropping the object in ‘The storm ^{β} weathers me’ or by turning the passive ‘The storm is ^{α} weathered [by me]’ into an intransitive ‘the storm ^{$\alpha\beta$} weathers’.

possible subjects. That is, in principle, one would have to allow for a fourfold intransitive weathering for both ‘the elements’ and other, in particular human, subjects, or ultimately just an avalent four-fold ‘it weathers’.

TOWARDS A PHYSICS OF FOUR-FOLD WEATHERING

No doubt, we have long left behind even less common uses of weathering, and there is also no reason to assume that every verb should be doubly ambitransitive. However, the combinatorics of valency reduction on the one hand raises critical questions worth exploring further. What would it mean if attempts at going beyond fixed subject-object binaries led to a proliferation of monovalent or eventually avalent weatherings? Does it suggest that the problem of binaries repeats itself in a different guise? Or could one take weathering’s enantiosemey — the use of the same word ‘weathering’ for all the different meanings that can be kept separate only with considerable analytical effort — as a hint that weathering defies language, logic, and reason, that one can only attempt to get to a fuller account by bringing together all these different, contrary meanings even though they cannot be pictured together, and that it forms an ultimately ungraspable kernel from which all the distinctions emerge that are retroactively used to project out complementary aspects?

On the other hand, I would maintain that the linguistic combinatorics can be productively related to different material phenomena and some thorny questions in the history and philosophy of physics. I have already suggested that thermodynamics and its second law of irreversible entropy production and dissipation strongly resonates with ubiquitous intransitive weathering, which now should be specified as β_P weathering. However, the second law continues to raise profound questions and elicit much debate. Insofar as it defines an arrow of time — an irreversible tendency towards larger entropy, disorder, equilibrium, and homogeneity — it confirms the intimate connection between weather and time suggested by Romance languages. As such, it is arguably necessary for any kind of phenomenal experience.

Yet while often regarded as the most fundamental law, the second law is alternatively, sometimes even simultaneously, considered as re-

1	I weather a hawk	
2	I αweather the storm	The storm β weathers me
3	I $\alpha\alpha$ weather [the storm]	I βPweather / am β weathered [by the storm]
	The storm αP weathers / is α weathered [by me]	The storm $\beta\alpha$ weathers [me]
4	$\alpha\alpha$ weathers [it] αP weathers	βP weathers $\beta\alpha$ weathers

Table 2. Completing the three MWD definitions of weathering (in bold) by allowing the storm to be the subject and considering both α weathering and β weathering as both agentive ambitransitives and patientive ambitransitives.

ducible to more fundamental laws at lower scales and/or in profound conceptual conflict with these laws.⁵⁹ The basic reason for the conflict is that physics tends to theorize fundamental laws as reversible and conservative rather than dissipative, that is, despite its early twentieth-century revolutions, it continues to follow the paradigm of Newtonian mechanics and its laws of inertia and conservation, which it extends from energy and momentum to other quantities and information. The basic conflict between classical mechanics and thermodynamics can be aligned with the difference between α -weathering connoting persistence and β -weathering connoting decay, deterioration, and loss. More precisely, the conflict here corresponds to the difference between $\alpha\alpha$ weathering (a persisting obtained from the active ‘I α weather [the storm]’) and βP weathering (a decaying obtained from the passive ‘I am being β weathered [by the storm]’).

Furthermore, there is the counter-intuitive claim — forcefully advanced especially by Ilya Prigogine, the 1977 Chemistry Nobel Prize winner for his work on dissipative structures — that it is the second

⁵⁹ While the literature on this topic is vast, a helpful point of entry may be Craig Callender, ‘Taking Thermodynamics Too Seriously’, *Studies in History and Philosophy of Science Part B*, 32.4 (2001), pp. 539–53.

law that accounts for the emergence of order and structure.⁶⁰ Prigogine's claim is remarkably hard to grasp in its provocatively general ramifications. It is often emphasized, for good reasons, that a key point for making the self-organized order and growth of living organisms consistent with the second law is to consider them as open systems that exchange energy with their environment and, more specifically, discharge more entropy into their surroundings than they ingest.⁶¹ To this extent, one could say that the key insight is that organisms behave like little storms that β^a weather in the form of exhaling, sweating, defecating, and urinating.

However, Prigogine goes further to suggest that self-organization is not merely compatible with the second law but follows from it, that is, that a system's identity and organization emerge and persist thanks to dissipation. It is as if α -weathering of mechanical persistence were subsumed under thermodynamic β -weathering and pushed towards an ambiguous vitalism. Such a move can already be found in Spinoza's notion of *conatus* as a 'striving to persevere in one's being', which is modelled upon mechanical inertia but tends to retain sense of desire and teleology of upward progression.⁶²

The basic issue remains how anything can emerge to grow in the first place. Although the β^a weathering verbs of excretion are all intransitive, they — and the very notion of an open system — all presuppose a distinction between system and environment. I would argue that it is therefore misleading to say that a system's identity and organization can emerge through dissipation as such, and maintain instead, as already indicated, that a differentiation between different modalities of intransitive weathering is required, which can now be

60 Ilya Prigogine and Isabelle Stengers, *Order Out of Chaos: Man's New Dialogue with Nature* (London: Heinemann, 1984).

61 In *What Is Life?* from 1944, Erwin Schrödinger highlights that 'an organism feeds on negative entropy'. While the related notion of 'negentropy' remains controversial, the basic idea is clear: for a self-organizing organism to respect the second law of global entropy increase, 'the essential thing in metabolism is that the organism succeeds in freeing itself from all the entropy it cannot help producing while alive' (Erwin Schrödinger, *What Is Life? The Physical Aspect of the Living Cell with Mind and Matter and Autobiographical Sketches* (Cambridge: Cambridge University Press, 2013), p. 71).

62 Cf. Christoph F. E. Holzhey, 'Conatus Errans: Paradoxe Lust zwischen Teleologie und Mechanik', in *Conatus und Lebensnot: Schlüsselbegriffe der Medienanthropologie*, ed. by Astrid Deuber-Mankowsky and Anna Tuschling, *Cultural Inquiry*, 12 (Vienna: Turia + Kant, 2017), pp. 66–123.

specified as a differentiation of persisting ^αweathering and dissipative ^βweathering.

Among the most familiar and deceptively simple examples from physics with which to test out these ideas is the formation of crystals in a super-cooled liquid. The process depends as much on the formation of persistent bonds in the emergent solid as on the flow of energy into the surrounding liquid, where it dissipates to increase the overall entropy. Furthermore, the liquid keeps threatening to dissolve the nascent crystal again, and it would quickly do so if its relative volume were not so large that it can easily absorb and dissipate the crystallization energy without being significantly affected by it. One could well speak here of a mutual weathering and even of the co-emergence and co-constitution of 'things' and their environment. Indeed, crystallization provides a model with which to think through the intriguing but hard to grasp notion of intra-action as process through which separable entities emerge and materialize in relations without preexisting relations. The model of crystallization helps understand, for instance, that mutuality, co-extensiveness, and co-constitution need not imply symmetry or similarity between the emergent entities, nor do they question the solidity and durable persistence of what emerges. It is helpful in clarifying the roles of indeterminacy, virtuality, and contingency, but also predictability. A closer analysis could thereby help sharpen the larger claims and expectations attached to such notions as intra-action, co-emergence, and co-constitution, even if — or rather precisely as — it may disappoint insofar as the general trajectory is quite predictable and progresses linearly from homogeneous liquid to immersed crystals, leaving only — though, to be sure, significantly — their actual location and shape open to a range of variation.

Much the same could be said about the more dynamic phenomenon to which Prigogine repeatedly refers as paradigm for dissipative structures, namely the spontaneous emergence of so-called Bénard convection cells in a homogeneous layer of liquid that is heated from below. This model relates in several ways to the multiple, ambivalent meanings of weathering. Above all, it provides the basic mechanism for the formation of wind patterns in the earth's atmosphere under the effect of the sun's influx of heat, which eventually gets radiated in a more isotropic and entropic form into outer space. But

its closer analysis also gives an indication of what could be meant by ^{ap}weathering, which in my analysis of the grammatical possibilities of weathering remained perhaps most obscure: what does it mean to consider ^aweathering as a patientive ambitransitive, that is, to say that the storm ^{ap}weathers insofar as it is weathered by me? How could a storm possibly be affected by my weathering it?

The attempt to model the weather through numerical calculations of the equations governing atmospheric convection made meteorologist Edward Lorenz a pioneer of so-called chaos theory. Repeating his computer simulations, Lorenz discovered that the sequence of convection patterns is extremely sensitive to initial conditions, making the weather unpredictable for all practical purposes even when it is assumed to be governed by fully deterministic and reversible equations.⁶³ This defining characteristic of chaos as understood in mathematics and physics — the appearance of randomness and chance in fully deterministic systems due to sensitivity to initial conditions — is at the heart of the famous ‘butterfly effect’. As Lorenz himself highlights in retrospect, this expression has a ‘cloudy history’.⁶⁴ Often traced to his 1972 paper entitled ‘Predictability: Does the Flap of a Butterfly’s Wings in Brazil Set off a Tornado in Texas?’, it refers to the possibility of small causes having large effects.⁶⁵ It suggests, in particular, that what an organism does to persist can have far-reaching effects — it can even set off a storm somewhere on the globe, or also prevent it.

As Lorenz notes, ‘Perhaps the butterfly, with its seeming frailty and lack of power, is a natural symbol of the small that can produce the great.’⁶⁶ However, the agency that the butterfly effect attributes to everything, including the small and meek, is ultimately deeply ambivalent: its potentially enormous effects could seem to show the

63 See Edward N. Lorenz, ‘Encounter with Chaos’, in Edward N. Lorenz, *The Essence of Chaos* (London: UCL Press, 1995), pp. 111–60, especially ‘Searching’, pp. 130–35. Lorenz’s chance discovery is dramatized in the opening chapter ‘The Butterfly Effect’ of the best-selling book James Gleick, *Chaos: Making a New Science* (London: Cardinal, 1988), which Lorenz credits for having established the butterfly effect as the ‘symbol for chaos’ (p. 13).

64 Lorenz, *Essence of Chaos*, p. 14.

65 The talk given in 1972 is published in *ibid.*, pp. 179–82.

66 *Ibid.* p. 15.

irrelevance of scale, make everything possible, and even feed fantasies of omnipotence, but they are utterly unpredictable and knowable only retroactively. Furthermore, even if an agent knew what it was doing, any intention, plan, or strategy would be foiled by myriads of equally powerful and unpredictable agents. Whatever happens ultimately depends on the constellation and behaviour of all agents, which are so thoroughly entangled as to make the very notion of agency meaningless.

If anything, it is the weather that gains agency through the entanglement of zillions of effective butterflies. As everything weathers the weather, the weather is weathered and therefore could be said to ^{ap}weather in an entirely unpredictable manner, behaving, for all practical purposes, as if it had a mind of its own. Furthermore, if ^{aa}weathering is above all about self-preservation, survival, and persisting self-identity — the storm figuring only as a grammatical object but not as the object towards which one's action is directed — the point of chaos theory could be said to assert much the same of ^{ap}weathering.

Chaos as understood by mathematics and physics is not pure randomness. Instead, it is defined in terms of a causally fully determined dynamic and involves a peculiar and ambivalent kind of unpredictability. If the figure of the butterfly ultimately established itself for chaos theory, it is arguably because it symbolizes not only the 'small that can produce the great', but also another defining aspect of chaos, namely the presence of so-called 'strange attractors', which constrain and govern the apparently random behaviour of chaotic systems. An attractor represents a small subset of possible configurations or dynamic patterns towards which a dynamic system is 'attracted' no matter where it begins. In the simplest case, the attractor is a point, such as the bottom of a well where a ball will end up whichever way it is thrown in. The attractors of chaotic systems are 'strange' insofar as they have a very complicated, so-called fractal geometry (Figure 1 shows an example). This strangeness accounts for the appearance of randomness as a system will be attracted to a different part of its attractor when the initial conditions are slightly different. Yet the attractor itself can be understood as a system's signature, that is, as a robust, intrinsic telos towards which the system will evolve and to which it will return when disturbed.

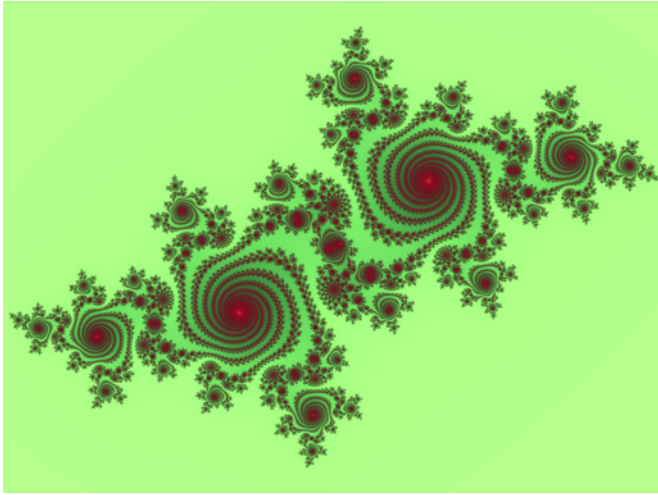


Figure 1. A Julia Set <[https://commons.wikimedia.org/wiki/File:Julia_set_\(chartreuse\).png](https://commons.wikimedia.org/wiki/File:Julia_set_(chartreuse).png)>.

Among the earliest and most famous attractors is the one that Lorenz found while modelling some aspects of atmospheric convection. In its by now customary representation, it happens to resemble a butterfly (see Figure 2), which provides another genealogy and meaning of the butterfly effect.⁶⁷ In this case, the butterfly would be the symbol less of small external causes having large effects in systems that are very sensitive to initial conditions and therefore effectively random than of the robust identity of the system itself, which is drawn to sets of patterns in a way that is no doubt highly irregular, but still characteristic and recognizable like the dazzling colours of a butterfly's wings.

Combining the two genealogies, the butterfly can symbolize a profound ambivalence of chaotic systems like the global weather system. On the one hand, it highlights their frailty and instability if even the flap of a single, frail butterfly can cause or prevent the occurrence of

67 See Robert C. Hilborn, 'Sea Gulls, Butterflies, and Grasshoppers: A Brief History of the Butterfly Effect in Nonlinear Dynamics,' *American Journal of Physics*, 72.4 (2004), pp. 425–27 (p. 425) <<https://doi.org/10.1119/1.1636492>>. Lorenz himself remains agnostic: 'A number of people with whom I have talked have assumed that the butterfly effect was named after this attractor. Perhaps it was' (Lorenz, *Essence of Chaos*, p. 11).

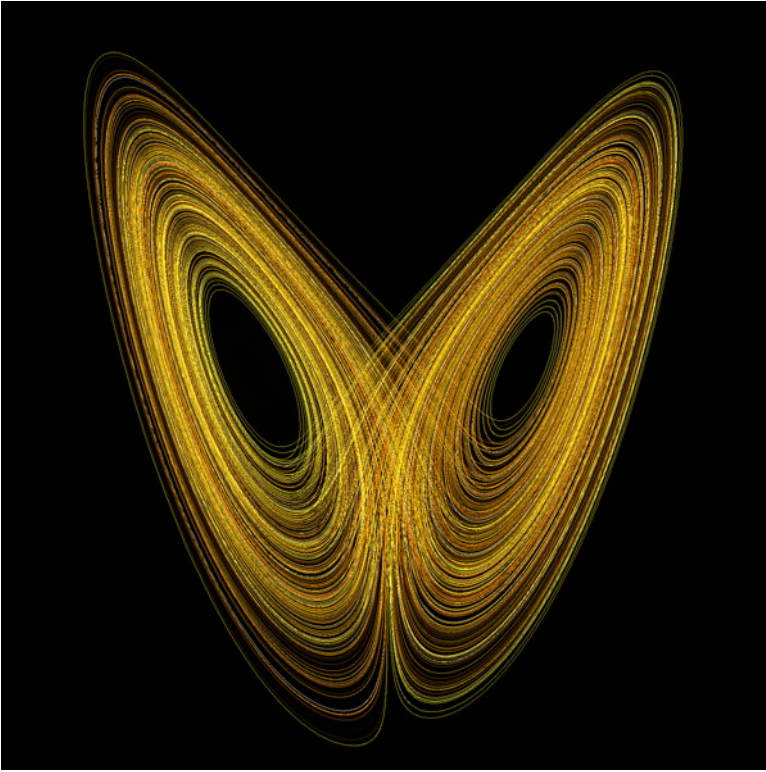


Figure 2. The Lorenz Attractor aka Butterfly Attractor
<[https://commons.wikimedia.org/wiki/File:
Lorenz_system_r28_s10_b2-6666.png](https://commons.wikimedia.org/wiki/File:Lorenz_system_r28_s10_b2-6666.png)>.

a storm. But the utter unpredictability resulting from this sensitivity, which leads to an inextricable entanglement with all elements, is only half the reason of why the weather behaves as if it had a mind of its own. Just as importantly, the weather behaves on the other hand in a manner that is not random but indeed of its own, always moving towards and along the intricately folded lines of its strange attractor, which characterizes the weather system and endows it with its own robust autonomous identity and idiosyncratic dynamic.

According to Lorenz, the strange attractor of the global weather system is 'simply the climate',⁶⁸ and it imposes an indeed remarkably

68 Lorenz, *Essence of Chaos*, p. 48.

stable identity on the weather. While explaining a difficulty in numerical weather simulations, he asks his readers to ‘imagine an enormous creature from outer space that swoops down close to the earth, reaches out with a giant paddle, and stirs the atmosphere for a short while before disappearing.’⁶⁹ Such a drastic intervention will have violent effects, of course, but Lorenz maintains that they will quickly dissipate; the perturbation of the weather will then be ‘hardly detectable and the weather will be back to normal, although the particular sequence of weather patterns will undoubtedly not be the one that would have developed without the disturbance.’⁷⁰ Clearly, Lorenz was not thinking of climate change here, but his argument does not deny its possibility and remains instructive in understanding how one can insist both on the weather’s resilient autonomy and on its instability, unpredictability, and sensitivity: Even after an enormously powerful intervention from outer space, the weather system quickly returns to ‘normal’ (that is, to its strange attractor), but at the same time the particular sequence of weather patterns (where and when a tornado forms, for instance) remains susceptible to even the most minute interventions.

While much more could be said about chaos theory, its premises, and consequences, I will conclude by proposing that it can provide useful models with which to think some of the ambivalences of weathering that the enantiosemic uses of the word have revealed. In particular, by engaging with profound ambivalences of un/predictability, im/potency, and dis/entanglement it may help grasp the peculiar kind of subject evoked when one uses weather verbs and says ‘it storms’, ‘it rains’, ‘it is hot’, or ‘it is cold’. What remains perhaps necessarily ambivalent is the question of whether the weather as subject anthropomorphizes the weather or deflates the notion of a subject. As noted at the outset, it may be preferable to err on the side of anthropomorphism and exclude an anthropocentric dualism in which the human (subject) constitutes itself in opposition to the (nonhuman) elements. Yet blurring all distinctions runs the risk of re-asserting through disavowal an emphatic autonomous subject with a vengeance, making the subject omnipotent by considering everything inseparably entangled, denying

69 Ibid., p. 96.

70 Ibid., pp. 96–97.

the relevance of scale, and allowing for decisionist agential cuts that determine what comes to matter and what is left to draw on. What I am suggesting instead is to trouble human exceptionalism through the peculiar subject of weathering that transpires when weathering is methodologically situated in both language and physics and grasped in its generative enantiosemy and ambivalence.

Christoph F. E. Holzhey, 'Weathering Ambivalences: Between Language and Physics', in *Weathering: Ecologies of Exposure*, ed. by Christoph F. E. Holzhey and Arnd Wedemeyer, Cultural Inquiry, 17 (Berlin: ICI Berlin Press, 2020), pp. 3–40 <https://doi.org/10.37050/ci-17_02>

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