Journal of the International Society for the Systems Sciences | 65th Meeting of the International Society for the Systems Sciences, J. Calvo-Amodio, R. Goede, G. Mobus eds.

Citation: Bateson, N.,(2021). Aphanipoiesis. In *Journal of the International Society for the Systems Sciences, Proceedings of the 64th Annual Meeting of the ISSS, Virtual* (Vol. 1, No. 1)

APHANIPOIESIS

Nora Bateson
International Bateson Institute
bateson.institute@gmail.com

Abstract

The multiple entities of a living system are always mutually responding to the shiftings of each other in ways that constitute both stability and change. It may be possible to name the changes that form, but before such naming, deeper abductive possibilities have already begun to quicken. Gregory Bateson sometimes described "abduction" as the way one context describes another. Charles Sanders Peirce more often described it as a way to hypothesize between contexts.

A New Word to Describe an Aspect of Living Systems: Aphanipoiesis

Pathology and vitality in living systems may be observable and describable; however, the ways in which they come to occur are at least in part unseen. "Insidious" describes dangerous outcomes that "creep up" through the combination of unseen contributing processes. But a way to describe a similar but life-giving process, by which vitality, healing, and creativity come into being by the coalescence of multiple unseen factors, is lacking.

Aphanipoiesis (n.) combines two words from ancient Greek to describe this way in which life coalesces toward vitality in unseen ways. *Aphanis* comes from a Greek root meaning "obscured, unseen, unnoticed;" *poiesis* is from one meaning "to bring forth, to make." Other words which also carry the root *aphanis* include "phantom," "diaphanous," and "phenomenon," while the root *poiesis* is familiar from the word "poetry," along with Maturana and Varela's *autopoiesis*.

Hypothesis and Aphanipoiesis

According to Peirce, abduction is the process of forming an explanatory hypothesis and is the only logical operation that introduces any new idea. Central to the abductive process is the notion of hypothesis. But what does a hypothesis say about the anticipatory systems of perception of any given observer? In noticing aphanipoiesis, exploring the realm of unseen contributors coalescing to produce the foundations of the hypothesis itself becomes relevant. The hypothesis is limited by pre-existing anticipatory patterns. If one listens only for what one knows to listen for, that is what will be heard. In the study of aphanipoiesis, the hypothesis is an indicator of those pre-habituated perceptions through which new information will be filtered. Familiarity with something in one context enables a kind of description of another context to become a basis for experiencing any kind of newness. A new flavor is explored through the experience of known flavors; a new form of music is explored by understanding other forms. Ultimately, the abductive process becomes a zone of untamed, unnamed, unseen, and essential contributors to what may later be called emergence.

Keywords:

Abductive process, anticipatory systems, transcontextual mutual learning, aphanipoiesis.

1 | Aphanipoiesis

Building upon the research of two other neologisms, Warm Data, (Bateson N. , 2017) and Symmathesy (Bateson N. , 2016), a third has become necessary to describe an unseen property within living systems. I introduce the word *aphanipoiesis* - meaning a coalescing of unseen factors toward vitality.

This paper is an introduction, primarily to the new word, and will describe a description of its place with the other two words as observed within the Warm Data processes by the Warm Data Lab research over three years. All three words have their basis in abductive process and explore inevitable mutuality of formation through transcontextual relational process. As an initial exploration into the aspect of change occurring in living systems characterized as being "unseen," this inquiry is a beginning point and invitation from which the exploration can be deepened. The criteria and formalities of this process remain unnamed and undefined. The following are some preliminary observations and questions to be pursued together.

Gregory Bateson, my father, is referenced repeatedly in this paper as this new theory is rooted in his work. In my studies of systemic practices and explorations of complexity theory, I have often sensed an essential underlying understanding of living systems in my father's work that is difficult to point to but somehow sets his work apart. My father carefully wrote into his texts an awe for how life keeps life-ing. Not as a dogmatic mystery, but as scientific rigor, he sculpted his descriptions of systemic process so as to never nick the artery of indescribable, infinitely entangled communication in families, forests, and societies. These careful wordings and observations are easy to miss because they are not spelled out as such, but they are there. If one reads Gregory Bateson for solutions and methodologies, it will not take long to become exasperated and toss his work aside. It is not convenient or easily applicable; this way of seeing eschews the urge to dive into action in explicit ways.

To attend to the unseen requires patience, hard work, and seemingly endless searching through infinite lenses. By no means is this exploration a suggestion of "surrender" or "acceptance" in new age terms. On the contrary, this is an invitation to add to the existing studies of living systems those critical characteristics that make it possible for organisms and societies to harbor potential change in unseen ways long before the new policy is adopted, or the new limb begins to grow. The change before the change suggests that perhaps indescribability is, in itself, an evolutionary condition, a built-in extra budget of possibility for unfamiliar formations. I suspect it is, and this indescribability offers the challenge of how to communicate this unseen, submerged process. One angle is to accentuate the lateness of responding to 'emergence' - when what has emerged is the expression of stored impressions that have long since been gathering. What about pre-emergence?

In linear causal terms, it is not difficult to point to an emergent situation and suggest its opposite as a response. Dry soil requires water, hungry people need food, high levels of carbon in the atmosphere need to be removed. Yet complex systems defy this sort of first-order (Bateson G. , 2000) response with unintended consequences; most of today's biggest "problems" are the result of yesterday's "solutions." One cannot assess a person's health only based on diet and determine that if they ate a different diet then they would achieve ultimate health. This is not so. The entire relationship with food reaches into geography, culture, early childhood, stress, old injury both physical and emotional, and countless other contributors. The same can be said of larger issues like climate change; the problem may be carbon particles in the air, but the long history of cultural respect being produced through material wealth has guided the behavior of rich and poor communities alike, fueling the destructive and exploitative industrial production-distribution-waste cycles. The issues are formed upstream of the emergence in the earlier overlapping and combining of unexpected and subtle experiences. Those subtle day-to-day subterranean learnings form and continue to form each of us.

This unseen realm is vital, non-trivial, and sacred, and it is real. I am increasingly finding that the most fecund realms of change, learning, and evolution are beyond the organism's current capacity to perceive. The flexibility that lurks below conscious perception is like the soil beneath the forest, teeming

with relational processes. While most attention is caught up in what can be perceived, there is a wildness in the implicit correlations, connections, and coalescing impressions.

I am deliberately making a correlation between these unseen accumulating stories in biology and human society and suggesting other ways of thinking about systemic change in human society. In this era, the culture of change-making seems to have an unfulfilled attraction for "systemic transformation" and "emergence." This tells us something about how systemic change is perceived. The filters of perception aligned only to strategic action obscure essential information about how submergent, inherent, unrealized information is forming. It is easier to name what is seen and strive to change it. But what if what is seen is already old news? Is the search for direct correctives a search in vain and looking in the wrong places? Like the story of the man who is looking for his keys at night only where he can already see under the streetlamp. It is time to ask: "How to stop looking for the car keys under the streetlamp when it is known the keys were lost in the forest?" Just because it is possible to measure and describe emergent events after the submergent coalescence does not justify turning away from the difficulty of addressing their nascent becoming. These pre-emergent processes are more challenging to define but at least equally necessary to consider.

Many will find this a frustrating inquiry, especially in this era of urgency in climate, culture, and economic danger often referred to as "the Anthropocene." It is possible some will call out this study as a frivolous fixation on the subtleties and nuance of perception. In this writing process, I have felt at times like the emperor's tailor, vying for the rich beauty of invisible silks. However, explicit action plans and impact reports have been unable to touch the realms of deeper impulses and multi-storied impressions from day-to-day decisions. The crises of our times can primarily be described as *insidious*. A tiny gesture toward healing implicit, destructive relational habits is much more practical than a hundred attempted explicit action plans that result in caustic erosion of more relational connective tissue. More than that, it seems essential to discover how evolution requires a shared capacity to meet an unknown future:

> The ideas in a civilization are (like all other variables) interlinked, partly by some sort of psycho-logic and partly by consensus about the quasi-concrete effects of action.
>
> It is characteristic of this complex network of determination of ideas, (and actions) that particular links in the net are often weak but that any given idea or action is subject to multiple determination by many interwoven strands. We turn off the light when we go to bed, influenced partly by the economics of scarcity, partly by the premises of transference, partly by ideas of privacy, partly to reduce sensory input, etc.
>
> This multiple determination is characteristic of all biological fields. Characteristically, every feature of the anatomy of an animal or plant and every detail of behavior is determined by a multitude of interacting factors at both the genetic and physiological levels: and, correspondingly, the processes of any ongoing ecosystem are the outcome of multiple determination (Bateson G. , 2000, p. 508).

1.1 | Insidious

I have attempted to name and discuss a characteristic of life I have found necessary for any systemic change. Most of the urgent issues at this moment in history can be described as "insidious," which is to say that they are produced through the combination of circumstances over time in unseen ways that have produced danger. Racism is insidious; sexism is insidious; corruption is insidious; consumerism is insidious; greed is insidious; cancer is insidious; trauma is insidious; addiction is insidious.

A contemporary definition of the term "insidious" is roughly "spreading gradually or without being noticed but causing serious harm" (Oxford University Press) or "(of something unpleasant or dangerous) gradually and secretly causing harm" (Cambridge Dictionary Press). Note: The older definitions refer more to ambush or to lay in wait, which are closer to the etymology of the word's more literal definition: "to sit in."

But how would one describe the opposite of this? What is the word to describe how unseen, gradual processes come together to form life, vitality, healing, and ongoing learning? And how would one know where the vitality begins, and danger ends?

Living systems are a constant combining of multiple forms of communication and interaction between organisms. While it may be possible to point to some of the first order combining and communications in living systems, the second and higher orders of communication remain unseen, inseparable, undefinable, and crucial to the trajectories and aesthetics of ongoing vitality. This process of unseen coalescence could use a name. By bringing together two words from ancient Greek, I propose the word *aphanipoiesis* as a term for this way in which life forms in unseen ways:

Afanis: Greek root meaning obscured, unseen, unnoticed.
Poiesis: Greek root meaning to bring forth, to make.

A possible definition of *aphanipoiesis* could be:
1. Noun (n.) An unseen coalescence toward vitality.
2. Noun (n.) A coalescence of experience becoming unseen.

Other grammatical forms could include the adjective *aphanipoietic* (adj.).

Interestingly, some other words that carry the root of *afanis* are diaphanous and phenomenon. *Afanis* has the implied meaning also of "something standing back, in the shadows, in humble quietude," and *poiesis* is seen in the familiar work of Humberto Maturana and Francisco Varela (1980) on autopoiesis. The coming together of these root words is not simply a sticking together of the two ancient words but also brings together the history and contextual meanings they have gathered to this time. The making of the word *aphanipoiesis* has, in itself, held unseen assumptions and habits. The meaning of the word is resting in an ambiguity between making the seen into the unseen and generating vitality through the unseen. Both are appropriate. Even though I may have been conscious and "seen" various experiences in my life, I did not "see" how they coalesced into other experiences to form the premises of my other thoughts. So, both the unseen coalescing toward vitality and the coalescing making experience unseen are taking place. As an aspect of life life-ing, aphanipoiesis is neither good nor bad, but neutral. Vitality can be dangerous too. Sickness can catalyse immune systems and forest fires are needed for certain trees to grow.

It is, for me, a reprieve from the structure and control of multi-cause and effect models to recognize that perhaps life requires something like a diaphanous poetry that rests in organisms as they meet an ever-changing future. Maybe it is difficult to measure such a thing, and perhaps that will bring a different approach to the study of change. Undoubtedly, the possibility of aphanipoiesis as a characteristic of living systems will also elicit an ocean of questions.

Of note is the importance of this coalescence being "unseen" rather than "hidden" or "invisible." There is nothing hidden in this natural process. It is merely out of habituated perception. When I first hear a piece of music, say a flamenco guitar piece, I may respond to the harmonies and instrumentations. But it may not be until I have listened to the piece several times, or until I have studied guitar, or studied Spanish, or the history of the oppression the song tells of that I am never able to perceive consciously the hints and gradations in the notes and rhythms. They are not hidden. They are unseen. Also of note is that the term "unseen" is being used here to refer to other senses as well, unheard, unsmelled, unfelt, and so on.

Older cultures have held the unseen to be relevant. It will be fascinating to explore how aphanipoiesis connects to those older epistemologies:

> *Nothing happens here that did not begin in that unseen world. … The indigenous understanding is that the material and physical problems that a person [institution] encounters are important only because they are an energetic message sent to this visible world. Therefore, people go to that unseen energetic place to try and repair whatever damage or disturbances*

> *are being done there, knowing that if things are healed there, things will be healed here.(Somé, 1999, p. 23)*

There is a definitive difference between this study of aphanipoiesis and the study of the unconscious. What is being explored in this instance is not "that which is not seen" as such - but rather the coalescing of many experiences that may have once been perceivable. It is the merging, mixing, and fusing (aphanipoiesis) process that is being featured through this study. The characteristic that differentiates this from other work on the unconscious is the attention to coalescence.

1.2 | Stochastic Fractal Flexibility

Evolution does not know where it is going. Or rather, to get where it's going, which is to the continuation of life, the world of living systems is built ready to find a way. We are on the bus with a planet full of organisms, all humming and buzzing with life moving through time, shifting, learning, changing, responding to each other, but there is no destination. Predetermined goals and destinations are efficient in industry but inefficient (even incapable) in continuing the complexity of life. The goal of continuing life is another level of "goal," worthy of a planet full of wiggling organisms.

If the larger "goal" is to preserve the possibility of ongoing complexity, the most vital trait we collectively participate in is the conservation of flexibility. The movements of each organism - our shapes, our rhythms of communication, our energy sources (food), our excrements, our birth, our death - all are in constant improvisational change, allowing the premise of life in the form of communities, societies, oceans, forests, meadows, soil biomes, and families to continue.

All of us, including the starfish, the redwoods, and the trillions of organisms that live in and on my body, remain in an intergenerational production of the "multiple possible." Living organisms have to stay in relationships, and these relationships have to be able to change, and the changes must remain wild. To decrease the complexity is to increase the likelihood of loss of flexibility or obsolescence. Perhaps this flexibility is produced through aphanipoiesis as the unseen coalescing of implicit communications in living systems brews sunken, latent. Stuart Kauffman (1995) points to the other side of this phenomenon when he describes the possibilities that open with each incidence of emergence. The tiny and huge events that once occurred create the context for other events. The invention of the cell phone made texting and a whole culture of emoji culture possible, for example. Kauffman calls this the "adjacent possible."

How does a living system change? Ultimately, this is a question that is rooted in the inquiry into how evolution takes place. Ongoing life is a combination of both chaos and order. Order persists but changes if there is stored flexibility in the system to allow it. Nearly random, but not entirely random events – that is, stochastic processes - open the pathways winding toward change. A big storm, a migration, a new fungus, loss of species, day after day, century after century - life brings surprises that all organisms have to tuck into their memoirs. Recessive genes remain in storage, uncalled for until there is a contextual beckoning for a new combination.

There is a paradox in the processes of how organisms evolve: the process of changing requires continuance; otherwise, the changes lead to non-viability or obsolescence, rather than continued relevance or interdependence. Adding to this paradox is the impossibility of explicitly tracking those changes when they are multi-faceted responses to relationships taking place at many orders of ecological vitality. They are leaving traces to be felt later when needed, but we do not get to say when that will be. The stochastic process of shifts in response to shifts through multiple contexts is so boggling that it interrupts the hunt for "cause" and pushes inquiry to another vista. From this vista, the possibility of aphanipoiesis becomes beneficial in opening up new forms of exploration of the cache of flexibility that allows for such unforeseeable "multiple possible" responding. Where does the new come from?

Somehow, a meadow or forest or family continue to exist while changing at every order - until the relational tapestry that holds the "forest" into its continued "forest-ing" becomes too threadbare, and then the obsolescence (devitalization) occurs. One could examine a family through their entanglements into the contexts of intergenerational relationship within cultural, economic, and political dependencies. It is also critical to recognize the family wound is utterly contingent upon the micro-biome and soil for food,

air, water, wood (forest), and metals, and the list goes on. As culture changes, the assumptions around the notion of "family" are shifting, but it is impossible to venture a guess into how economics, politics, education systems, health systems, religion, and changing micro-biome, climate, and so on are impressing upon these new forms. That they are changing is indisputable, but the realms and ways they are changing remains stochastic in their unfolding. Where is the edge of the family? Where is the edge of the forest?

Does evolution require something like a process of aphanipoiesis?

> *…I was laying down very elementary ideas about epistemology, that is, about how we can know anything. In the pronoun we, I of course, included the starfish and the redwood forest, the segmenting egg, and the Senate of the United States.*
> *And in the anything which these creatures variously know, I included "how to grow a five-way symmetry," "how to survive a forest fire," "how to grow and still stay the same shape," "how to learn," "how to write a constitution," "how to invent and drive a car," "how to count to seven," and so on. Marvelous creatures with almost miraculous knowledge and skills.*
> *Above all, I included "how to evolve," because it seemed to me that both evolution and learning must fit the same formal regularities or so-called laws. (Bateson G. , 2000, p. 4)*

1.3 | Transcontextual

"Transcontextual" is a descriptive term that I discovered in Gregory Bateson's *Steps to an Ecology of Mind* (2000). I have found it more valuable than I imagined. Attention to what is happening across and between contexts moves the study of change from change in the organisms or parts of a system to change between them. I am less interested in "transcontextuality" in noun form, which loses the relational aspect of the adjective. This idea proved to be more significant than I expected.

The following quote addresses the breadth of the concept nicely. In this passage, Gregory Bateson refers to the syndrome of the double bind, which is a bind that has caught a person or an organism in a situation in which they cannot succeed without a jump in perception:

Let me coin the word "transcontextual" as a general term for this genus of syndromes.

> It seems that both those whose life is enriched by trans-contextual gifts and those who are impoverished by transcontextual confusions are alike in one respect: for them there is always or often a "double take." A falling leaf, the greeting of a friend, or a "primrose by the river's brim" is not "just that and nothing more." Exogenous experience may be framed in the contexts of dream, and internal thought may be projected into the contexts of the external world. And so on. For all this, we seek a partial explanation in learning and experience. *(Bateson G. , 2000, p. 272)*

"**It's not just that and nothing more."** The quote above is one that I regularly use in my Warm Data courses to illustrate how an experience is received and perceived through many contexts simultaneously and without conscious noticing. Warm Data is defined as transcontextual information produced through communication forms, both direct and indirect that combine contexts. A friend who waves from across the street may be waving for the first time since an argument; they may be waving instead of crossing the street to embrace you; they may not be waving at you, but at the person you are walking with. The meaning of the wave is a blend of contextual stories. The blended contextual overlapping is particular to each circumstance, social or biological, but the blending is universal. Whatever it is - it is not just that and nothing more. The details and specifics that are blending produce an aggregate of variables for possible change or flexibility, but that aggregate can also create double binds, stuckness, and other traps. The point is, these many-tentacled blurring stories are holding both continuance and discontinuance. To evolve (which may include a period of catastrophe during reorganizing) or to become obsolete?

These issues are responses to responses. The need to create a respectable and perhaps attractive identity in a society that reveres material wealth makes consumerism and monetary ambition a response

to the more ancient need to be relevant to one's community. Counting carbon particles and producing media to communicate climate change are responses to these responses. They are all so deeply transcontextual and combined in an alchemy of subtle and not so subtle transcontextual affirmations that they are not successfully "fixed" or removed by explicitly formed direct correctives. In fact, they are usually made more dangerous by such responses. A direct corrective to an insidious issue is most often experienced (in human terms) as confusion, rejection, or humiliation. The "problem" is "not just that and nothing more" - it is forming between contexts in unseen ways. Consumerism is implicit in language, education, economy, toys, family relations, law, and more - to try and "fix" it, as an issue to itself, will strike multiple contexts of response, or in other words, it will generate all sorts of confusion. Yet somehow, a meadow knows how to evolve, both in its organisms and in the relationships between them. There is something continuing - the meadow-ness - and much that is not continuing both in the organisms and between them.

1.4 | Warm Data

As the International Bateson Institute began to research "How Systems Learn" it became clear that there was a need for a description of another kind of information, which could hold the ever shifting and responding of transcontextual processes. This description became 'Warm Data' (Bateson N. , 2017). Warm Data is a term coined in 2012 to describe transcontextual, relational information. Warm Data is information that is alive and shifts within the mutual learning of all living systems. Information that describes the ever-changing relationships between contexts must hold second-order cybernetics, paradox, and authorize perception of the aesthetic, texture, or tone of the meta-communication in the systems. The practice and development of the Warm Data processes brought a strong taste of the potentialities in this lively zone of contextual overlapping and reframing. But it was impossible to pin down, impossible to predict, and impossible to see.

1.5 | Symmathesy

First coined and published in 2015 and presented at the ISSS meeting in Berlin of that year, 'symmathesy' is the study of how systems learn through transcontextual mutual learning (Bateson N. , 2016). This study has opened up many new prospects of inquiry through the question, "How is it learning to be in its world?" - a crooked tree, a disturbed child, an insect in the jungle. The inquiry which emerges from this symmathesetic question pushes the observer into a perception of the ways in which the studied system is described through its relational contexts. The tree is learning to be in the soil it is in, it is learning to be in the shadows of the trees nearby, it is learning to be in relation to other organisms that are, in turn, learning to be with the tree. Symmathesy as a concept has been brought to evolutionary biology, family therapy, healing conflict, political polarity in communities, and more.

1.6 | Abductive Process, Two Versions

As a process of coalescing, the new term "aphanipoiesis" asks for an approach to the study of living systems based on how organisms and ideas alter each other, mutually learning, simultaneously allowing for stasis and change. If all organisms moved through time and stayed the same, like a machine, life could not continue. Shifting is relational and responsive. The study of this responsiveness is inexhaustible and eternal. The study drops out of concretized definition and into another form of inquiry that requires casting communication across contexts and considering the transformations in that movement.

Peirce (1998) and Bateson (2002) recognized the importance of abductive process as necessary to obtain new information or insight. Peirce was more focused on how the information from one context could provide the basis for the hypothesis of another context. Bateson was interested in the way one context in a living system became a sort of description of the others. Both of these approaches to abductive process are viable in the study of aphanipoiesis. Peirce articulated the three forms of logical

meaning-making: induction, deduction and abduction. He went on to note that abduction has the importance of offering the possibility of new ideas:

> *"Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea; for induction does nothing but determine a value and deduction merely evolves the necessary consequences of a pure hypothesis." (Pierce, 1998, p. 216)*

I am both surprised and not surprised at how little the current discourse of systems transformation has drawn from the theory of abductive process - surprised because it is critical to understanding how systems change, not surprised because it shifts attention from "fixing" a system by adjusting its parts to attending to the possible relational processes within that system and between that system and its "environment/s". The latter is un-measurable, and manipulation of it is dangerous. Gregory Bateson provides language around the nature of "description" - while Peirce opens the door to consider the process of lateral pattern recognition. Both scholars recognize the importance of abductive process in thinking about change in living systems.

> …All thought would be impossible in a universe in which abduction was not expectable. Here I am concerned only with that aspect of the universal fact of abduction which is relevant to the order of change that is the subject of this chapter. I am concerned with the changes in basic epistemology, character, self, and so on. Any change in our epistemology will involve shifting our whole system of abductions. We must pass through the threat of that chaos where thought becomes impossible.
> Every abduction may be seen as a double or multiple description of some object or event or sequence. *(Bateson G. , 2002, p. 134)*

1.7 | Aphanipoiestic Realm – Where Flexibility Lives

In the moment of response to an event, the organism evaluates its circumstance as it can, using its history to inform its future. Evaluation of context is as vital as water. The question becomes: "How is the information of past experience organized into the evaluation?" This is not a direct corollary. As an example, I learned in math class to use formulas that were not necessarily useful to my life in terms of working through algebraic equations. I hardly ever use my knowledge of algebra as such, but as any mother can attest, each day is an ongoing calculation of multiple variables of time, temperament, sleep, food, finance, and tradition. Learning to think in terms of variables was indeed useful. In algebra class, I also learned how to conduct myself in relationships with authority; the establishment of successful or failed communication with the teacher later informs relationships with employers, in-laws, etc. This learning was affirmed and confirmed in a myriad of other contexts like getting a driving license, or going to the doctor, where attention to cultural hierarchical deference is required for success. Abductive learning is constantly bringing the experience from one context into another, informing the well of named and unnamed experiences from which to draw instant evaluation of emergent circumstances.

In my work, the snag I have with abductive process is that it pushes the strategist and the committee into chaos. For example, if one asks about a crisis in the education system from an abductive stance, the question defies all familiar paths of solution. Where is the problem in the education system? Is it in the classroom, the family, the economic system, the communication between generations? Is it cultural? Is it historic? Is it technological? Through the Batesonian lens, the education system can be seen as a "description" of these other contexts. Investigation of the transcontextual descriptive process begins to illustrate how the education system is a description of the economy and job market, into which students are funnelled. It illustrates how the education system is a description of intergenerational expectations; the education system is a description of a culture that values reductionism; it is a description of the history of education. In each case, the contexts are inter-descriptive and forming abductive zones of relational, semiotic processes. The snag is that no innovative curriculum can undo the knot of overlapping, inter-stitched contexts that produce what we know as an education system. So, where is the change? Usually,

this question is posed toward a perceived need for action toward a predetermined goal, effectively stomping on the possible aphanipoietic potentialities, and leaving insidious habits to suggest direct correctives, only later to be repelled.

The way our parents' expectations inform our understanding of how to create an identity; how we wind that into our ability to get a good grade in algebra or a titled position at a firm; how these expectations melt into what it means to be a citizen; and to be a parent one day ourselves - all of this is an abductive transcontextual swirl of responsiveness. Aphanipoiesis is what happens in this messy but vital commixing of responses. The diversity of impressions that are changing each other can be compared to an ecological system. The pathology of the education system requires this diversity, not just in the number of perceptions but also in the strange blends that can release a new perception. At the same time, the possibility for any new forms to come into being must surely start in this aphanipoietic process. The necessity of it being imperceptible is that it is kept outside of the habituated forms of action which reconfirm each other - which is a form of flexibility of the utmost value to an ever-unfolding evolutionary story.

> Social flexibility is a resource as precious as oil or titanium and must be budgeted in appropriates, to be spent (like fat) upon needed change. Broadly, since the "eating up" of flexibility is due to the regenerative (i.e., escalating) subsystems within the civilization … flexibility is to specialization as entropy is to negentropy. Flexibility may be defined as uncommitted potentiality for change. *(Bateson G. , 2000, p. 505)*

1.8 | The Study of Change

The study of change is usually caught in the cultural cul-de-sac of measured differences in decontextualized outcomes; a more relational study would note that changes that have become visible or measurable are not the change itself, but rather the consequence of more interrelational shiftings within a living system. Therefore, it is useful to consider the abductive processes at work in the deeper formation of relational change. The ways in which the multiple entities of a living system are continually responding to the shiftings of each other are moving potentialities for change. It may be possible to name the changes once they form, but by then, the deeper abductive possibilities have long since been brewing across and through multiple contexts. The need to find language through which to approach a discussion of this pre-emergence realm of communication prompted the forming of the new word to describe it. I have previously referred to it as "submergence" in other publications, but I acknowledge that language is probably inadequate to address the complexity of the process which aphanipoiesis can hold. While it may be that there is a kind of submergence of unseen impressions that produces a basis for the pathways of what will later appear as emergence, the submergence alone is not stirring the pot. To stir the pot of existing underpinnings of sense-making, a combining of experiences through multiple contexts sets things in motion. A meadow is only a meadow through the many forms of communication and relationship between the organisms. The earthworm is in different "mutual relationshipping" with the soil, the trees, the grasses, the insects, and so on. Each of these organisms is correspondingly in multiple relational processes with the other organisms of the meadow; the vitality of the meadow is continued through these many responses reflecting through many contexts.

1.9 | Hypothesis and Anticipatory Systems

For Charles Sanders Peirce (1998), the abductive process offers an opening of understanding through hypothesis, in which new connections can be made. In keeping with the example above, we might hypothesize that understanding contextual patterns of the education system can be projected onto the economic system to understand both better. Right away, it is evident that this transcontexual pursuit unveils similarities and differences that give insights. The beauty of this process is that it opens up new ways of understanding, redoubled when multiple observers are multiply hypothesizing.

As the hypothesis is forming, there is also the possibility of noticing what latent presuppositions are laced in, and how those unseen epistemological preconceptions are setting the limits of the hypotheses

and nudging directions of response. The hypothesis itself has been informed by a history of experience, collected into an unseen set of favored understandings. If I know how to find my way around an airport, I will be able to use that familiarity toward other public buildings. I will look through that familiar experience into the one I am faced with and source from the familiar to apprehend the unfamiliar. If I am considering starting a partnership, I source information from my experience in other relationships, (with parents, lovers, siblings, friends), as well as business. These favored understandings might be insidious, edging toward danger, and they might be aphanipoietic, edging toward vitality. It is necessary to ask, what are my hypotheses telling me about the pre-existing patterns of thought - influenced by culture, education, and economy - that filter and select the form of my hypotheses?

Applying the idea of an aphanipoietic history to hypothesis gives another layer of information that is humbling to the eager strategist. It is interesting to note that the way in which the above hypothesis is formed is, in itself, an illustration of many of the pre-existing epistemological sensitivities formed gradually through the coalescence of many other contextual impressions. I have an already existing lens through which I am tracking ideas that are familiar to me. The hypothesis reveals these familiar perceptions and abilities to perceive and will lead to entirely different directions of decisions or actions depending upon habituation. The hypothesis itself becomes a tender risk or vulnerability, a permeable moment when the limits of perceptive capacity are revealed. Exposing existing familiarity with something in one context so that it might shed light on another is a basis of the experiencing of any newness. A new flavor is explored through the experience of known flavors; a new form of music is explored through the understanding of other forms; thereby, the abductive process becomes a zone of untamed, unnamed, unseen, and essential contributors to what may later be called emergence. But one person may taste a spicy dish and recognize the spice as discomfort, while another may recognize it as an artistic culinary skill.

The hypothesis is not bland. It is not uninformed. Instead, it expresses the deeply held, habituated assumptions that are ready to receive new combinations of contextual information. In this way perhaps the more insidious premises are brewed at the level of aphanipoietic process. The abuses that are experienced by children later fuse into other experiences and set the limits and the tone of hypothesis in later other relationships. The early experiences may be long forgotten, but the pain is still informing in ways that are not easily adjusted at conscious verbal levels. Likewise, many experiences of success or struggle in the classroom may inform later responses to employers and authority figures.

Robert Rosen's (2012) work on anticipatory systems cautions that when considering the responses of an organism in a system, it is always necessary to look into the historical sensitivities of (or within) that organism that produce particular proclivities for particular aspects of what is otherwise a broad spectrum of information. The organism picks up on what it is anticipating, what it is already familiar with, what we have words for (in human experience), what is already known. In the preface his daughter, Judith Rosen (2012, pp. xii-xiii), writes:

> All "instinctive" behavior of living organisms is based on the activity of such internal predictive models, generated from encoded information within their own systemic organization. To observe and learn about the annual migration of Monarch butterflies in North America gives us enough evidence to put us in awe of just how detailed the encoded information can be and how powerful is the guiding action of these internal models on the behavior patterns of all living things.

There are stark dangers embodied in this situation, however … The dangers stem from the fact that many of the encoded models (and/or the information from which they are constructed) are either not able to be changed within a single organism's lifetime or else they change too slowly to be able to avoid disaster in a rapidly changing world. There is no way to know, from within a model, that the system it was encoded from has changed radically. The model will keep on making predictions using wrong information - and the organism will still be guided, partly or entirely, by those predictions. If the predictions are inappropriate, the behavior will similarly be inappropriate - perhaps to the point of mismatches that prove lethal to the organism. Because organism species within an ecosystem are so

interlinked in their requirements and dependencies, the death of significant numbers of one species can initiate further rapid changes in the behavior of the local environment, which can ultimately cause rapidly escalating cascades of extinctions.

This is the Achilles heel, the innate vulnerability, of all anticipatory systems. With human-induced changes to the composition of Earth's atmosphere happening at an unprecedented pace over the past two hundred years, and the further unknown changes which are likely to be caused by them, we would do well to pay very careful attention to the warning that is inherent in these facts. Any model-based guidance system will only be as good as the encoded information it uses.

In *Mind and Nature* (2002), my father provides six criteria of what he calls "Mind". These criteria are not about brains but are instead a set of possible laws of living systems whose interdependent aliveness he calls Mind. The fifth of these criteria is essential to the idea of aphanipoiesis because it describes how an organism receives any input into an already grooved set of experiences (differences). Criterion 5 of Mind: "In mental process the effects of difference are to be regarded as transforms (that is, coded versions) of the difference which preceded them." (Bateson G. , 2002, p. 102)

To get to the heart of this idea, it is necessary to diverge for a moment into what Gregory Bateson means by "differences." The way that Bateson defines information is as the "difference that makes a difference." (Bateson G. , 2002, p. 212) Comparisons between sounds, colors, textures, tastes, distances, weights, emotions, tones, and so on provide an ever-increasing collection of contrast that allows for refining perception. The way musical notes are212 played together, and next to moments of silence, is information about the musical notes as single notes and combinations. A single note played forever actually is nothing except in contrast to the other sounds of silence or your heartbeat. The "difference that makes a difference" is a relational description of information that contains the idea that comparison and distinction will be particular to the organism receiving the information. I may hear a piece of classical music differently than my father did or than my children do because the harmonies will call up experiences of my life (musical and non-musical), producing a unique set of "differences that make differences" in me. I taste my daughter's lemonade differently than you might because you have a different history of lemonades, daughters, drinks, summertime, mothers, kitchen smells - and so on.

When Gregory Bateson (2002, p. 102) says, "In mental process the effects of difference are to be regarded as transforms (i.e., coded versions) of the difference which preceded them," essentially, he is saying that as new experience or information is met, the organism, or community of organisms, will receive that experience by referencing those familiar experiences. I walk in the Swedish forest and think, "this is like Connecticut." You might taste a fruit you have never had before, and something in you is searching for recognition - it is like an apple, or no, a mango. I don't know.

But the point is this: the new experience is not met with a blank slate. The organism cannot discern the new experience's nuance, or even its more basic information, without attaching it first to some kind of reference formed from previous experience. The organism is always translating any new experience through a transcontextual combination of the experiences that have come before. There may be a time of day you linked to the pain of heartbreak; a friendship that connects to a particular book. These referencing combinations are beyond rational, as they hold our inner worlds of experience of diffused experience at nth orders.

Which is to say, there is no "clean" hypothesis. All hypotheses will carry in them something like a fingerprint of the organism's experiences that are hypothesizing. "It is not just that and nothing more." There are many contexts of experience that subtly blend as they form the basis of an idea to be expressed. The expression and the idea will be soaked in these preliminary processes, while the observer has no control or knowledge of this.

The unseen here, the aphanipoiesis, is working in the underground, mixing and matching differences, generating impressions and stirring them into the amalgam of history, anatomy, physical context, and fusing those differences into other relationships the observer has experienced. The aphanipoiesis is taking place, producing implicit conceptions out of all the clutter and gems of the past perceptions, most of which were not consciously construed. In this sense there is what could be imagined as a pre-anticipatory field, of necessarily non-prioritized experiences, waiting *just in case*.

An event, or something communicated - whether a falling leaf or greeting of a friend - is not at all what is received as information by another being. There is no way to separate the observed from their history of observation, and it will always shape the communication to a form that it can digest. While this may appear to be a permanent confusion, it is possible that the aphanipoiesis, the unseen coalescence, is necessary for preserving the wildness of change.

1.10 | Expression, Communication, Meta-communication

> When we study the biological world what we are doing is studying multiple events of communication. In this communicating about communication, we are particularly interested in describing injunctions or commands - messages that might be said to have a causal effect in the functioning of the biological world - and in the system of premises that underlies all and makes them coherent. *(Bateson & Bateson, 1988, p. 151)*

Mutual learning and information create resonances between entities in a living system. The resonances become their communication as well as their possibility for communication.

This is perhaps at the core of what is sometimes called "change."

Explicit communications such as: when I tell my children I will walk the dog, or when the dog brings me the ball to throw, or when the news anchor says the vaccine is 70% effective against the coronavirus, all carry multiple versions of communication within them. As discussed above, there is a difference between what is "said" and what is "heard." But there is also another sort of communication implicit within each of the above examples that is non-trivial. When I tell my children I will walk the dog, I am speaking into multiple contexts. One context might be that I will do a task that they should have already done; it could be a guilt trip. And it is also communication about our day, the activities it contains, and how we keep track of things. It could be a message about getting exercise; after being on screens all day, I might be modeling a healthy lifestyle. Maybe I am just eager to go for a walk in the woods, and that means the kids are watching the house while I am out, and they better have the dishes done when I get back. "I am going to walk the dog" - a simple statement of regular action, is, in fact, a loaded communication about the way our family communicates. Implicit in the statement is the message that "this is how we communicate about this."

Implicit communication is what I would like to address here. Firstly, because surely the tone or the aesthetic of the communication is holding a great deal of the message. Aesthetics of relation-ing in systems seems to become a grammar into which all other communication is soaked. The differences in tone and contrasting aesthetics of communication produce a felt spectrum that holds the limits of what can be communicated in any particular relationship. So that if one were to read the transcript of a family interaction, it would be impossible to discern the nuance of the tonalities. Additionally, it would be difficult to discern those nuances if one were analyzing the family in person, as the observer's filters will not be congruent with those of the family, which hold history.

The meta-messages lurking in spoken communication, architecture, media, cultural expression, arts, technologies, and intergenerational expectations create the territory in which relationships can be explored. The meta-messages of the classroom assign the authority of the teacher. The meta-messages in my Google calendar tell me that my productivity is seen through blocked out timings. My mother's freshly set table communicates that I should sit up straight and engage in a more formal conversation at dinner. These are the unseen, unsaid, implied limits into which the relationships can expand. The aphanipoiesis is holding this meta in place, or maybe it is more insidious, depending on the family, or classroom, or forest. Are those meta limits protecting the possibility to learn and heal? Or are they delineating forms of holdback necessary in the system that devitalize? How can we know the difference?

Communication is not what has been said. It is what it is possible to say - and that is guarded by the implicit messages inherent in the relationships. Aphanipoiesis as a concept places this realm of potential communication as a territory of changeability, but it is not accessible from any map.

1.11 | Warm Data Labs

Observations of aphanipoietic phenomena are surfacing through research conducted by Warm Data Labs and the online Warm Data process known as People Need People. Warm data processes are transcontextual mutual learning sessions open to anyone of any level of education to participate in. They are hosted in 40+ countries by 600 certified Warm Data hosts who have undergone a study grounded in many Batesonian theories. The Warm Data process consists of a question offered to the group who will discuss their thoughts in stories or other impressions as they move through multiple contexts. The question might be, "what is continuing?" - and the contexts might be ecology, education, economy, health, family, history, identity, technology, religion, spirituality. As participants move through the contexts, their inputs begin to intertwine, fuse into new insights, and reframe memory. But it is not so easy to pinpoint where the change is taking place, or how, or to what end. In this form of conversation, people find that as they discuss their ideas "about" the given contexts, how the contexts link into their lives is revealing a form of learning happening "within" and "between" the contexts. The relationship between the "about" and "within" of the conversations in these practices has been fascinating and essential.

What has become increasingly clear through these processes after hosting hundreds of Warm Data labs with thousands of people is that it is necessary to re-examine what is meant by "change" in living systems, such that the change might be distributed throughout the system in unseen ways. Instead of isolating cause and effect, goal and strategy, to produce a particular change that is explicit and perhaps measurable, there appears to be a realm of potential change, a necessarily obscured zone of wild interaction of unseen, unsaid, unknown flexibility. The potency of this change is easily dismissed because it does not show up on the report with coherent analysis. This sort of change seems to eschew analysis. In fact, analysis as we know it is not suitable for studying this sort of slippery poly-learning. The ways in which the learning is "actionized" are entirely different for each participant; these sea-changes often move silently into many aspects of life from professional to personal, without being traced back to the Warm Data work. The shifts in perception run deep enough that they are felt to have been there all along and are simply woken up by the Warm Data or, better still, continue without any mention or reference to Warm Data at all. They submerge.

The way in which Warm Data Labs both imitates life and disrupts cultural segregation of contextual attention is significant to this study. As participants move between contexts having conversations, they are zooming in on the details of their particular context - say, education or ecology. But they also "know" they are in a transcontextual setting and that economy, health, culture, and politics are also vaguely "there," producing conversations, which achieve simultaneous zoom in and zoom out - implicitly.

How the original question asked in the Warm Data Lab unfolds through each context is utterly personal and unique to the moment and the group of people in the conversation. The detail and intimacy of these conversations reconnect the broader systemic view into the participants' particular life experiences. This reconnection is critical. The structures of systemic processes become tangible in people's memories of their lives. Not as a vocabulary or model - but as participants move to another "context" and continue - the conversation they just had does not fall out of their bodies. Rather it is there, informing the following conversation, infusing the next context's discussion with the flavors and memories that were stirred in the last. In this way, transcontextual learning is a re-tissuing of understandings between the people as they move through contexts, memories, language, and non-language. Again, where is the change?

Those looking for a focused action plan toward a solution of a particular issue will be frustrated by the Warm Data processes. They will be unable to perceive the shifts that are taking place - like the famous story of the man looking for his keys under the lamppost who is asked by a passerby where he lost his keys. To which he replies, he lost them in the dark forest - not under the lamp where he is looking. So why is he looking for his keys under the lamp? Because that is where he can see. Like the lost keys, the change is in the dark forest. Not where we can see it.

One of the most important things I have learned through this work seems terribly obvious: one cannot explicitly change that which is implicit. This is where the Warm Data work has been so difficult to defend - in a world that seems to have forgotten the potency of the implicit. It is also juicy.

1.12 | Change in Implicit Realms

As an entry into the vocabulary of systemic studies, aphanipoiesis is not so much filling a gap as honoring the need for gaps in all messaging to enliven the connectivity processes of communication, play, and learning in relational process. The gaps are essential; they hold unseen, untamed, unnamed, un-grooved mixing of collected impressions. Gapping is inevitable, and it is vital. The relational organism cannot help but engage in casting perception across these gaps to find the familiar in the unknown. With no goal other than to continue to be a living system within other living systems, the organisms are free to mutually follow stochastic pathways as they happen.

> Now that we have pulled out "structure" from the ongoing organized flux of the universe, it is appropriate to attempt a synthesis – to put it back again. Let us see how our fabric of descriptions and reports and injunctions fits a world fleshed out with life and happenings. First, it is conspicuously full of holes. If we try to cover life with our descriptions of it – or if we try to think of the totality of an organism as somehow fully covered by its own message systems- we at once see that more description is needed. But, however much the structure is added, however minutely detailed our specifications, there are always gaps. *(Bateson & Bateson, 1988, p. 162)*

1.13 | Re-tissue-ing the Gaps

It is as though the gaps provide the necessary opportunity for tissuing, connecting, impression-ing processes to take place. The stitchery between these gaps is the abductive process at work. In the same way that metaphors generate responses from the unseen inclinations of the observer, the gaps are there to allow themselves to be filled with inter-steeping inklings. In that stitchery is where the rhythm, the tone, and the rules of communication between aspects of the system are forged. Later those rhythms and rules manifest as emergent behaviors or events. By then, the implicit underworld that defines the relations have taken form. The question that aphanipoiesis brings is how to tend to that permeable area of stitching the gaps?

In sum, all descriptions, all information, is such as to touch upon only a few points in the matter to be described. The rest is left uncovered - hinted at perhaps by extrapolation from what is actually communicated but in principle undetermined and un controlled by the message system. The US Constitution, for instance, leaves almost everything unsaid. What lawyers have spun out in addition still defines only a few details and here and there a basic principle of human interaction. Most is left undefined or is left to be worked out after the first formative hint is given.

(Bateson & Bateson, 1988, p. 163)

What happens between hints? Between which tendencies and habits were the connections brewed? Explicit actions fail to touch this process. You cannot tell someone not to be racist, or corrupt, or sexist, or greedy. Those insidious ways of being in the world are produced through a conjoining of experiences and unseen impressions. They are out of the reach of any direct corrective. Aphanipoiesis must be taken seriously and handled with the utmost integrity to get to these implicit realms. Art, play, practice, learning - all of these are natural responses to the need to try out new ways of weaving connective ideas and reweaving them and reweaving them. Placing images, musical notes, ideas, stories, and other forms of open communication side-by-side is an irresistible invitation to start finding new links. The tissues between the gaps hold the implicit premises of the system; they form the most malleable, and perhaps the most challenging realm of systemic change.

How does one know what information to put "side-by-side" to generate stochastic stitchery that is aphanipoietic rather than insidious? It is a razor's edge of "difference that makes a difference." Stochastic process vitalizes the unseen stitching between gaps and is utterly dependent upon the abductive process.

Precious unexpected insights that bubble up between contexts offer a side door out of the matrix of self-perpetuating thinking loops… but it is not as methodological as it sounds. In the Warm Data work, there is an uncommon attention paid to the levels of abstraction the contexts share that are being placed side by side. It matters. Bertrand Russell (1908) and Alfred North Whitehead (Whitehead & Russell, 1910) both worked with the idea of logical typing; Korzybski (1933/1958) entered this discussion as well in his inquiry around levels of abstraction. Mixing the levels is a dangerous game.

As the aphanipoietic process is always taking place, there will be, for better and for worse, a stitching together, a coalescing between the gaps, whatever they may be. The question is - how much transcontextual tissuing is possible? If the gaps provided are limited, the coalescing will be impoverished. This is the basic tenet of what might be seen as insidious propaganda. Abuse of the aphanipoietic process would include narrowing the contexts through which abductive process might be able to bounce around coalescing increasingly complex sets of gaps/contexts. The limitation creates a basis of a reduced living process and leads to more reductionism, divisiveness, and violence.

In general, as we are becoming sensitized to the nuance of how the abductive process is activated through this "side-by-side-ing," it is best to keep the abstraction levels congruent. By that, I mean that the combinations are lateral. We might "side-by-side" contexts such as politics, economy, health, family - but to add something like "love," "communication," or "competition" would bungle the levels and likely create confusion. For example, comparing nature to a machine makes it possible to see in nature a fragmented collaboration toward an outcome. This in turn begins to justify competition, war, and individualism. Whereas if the side-by-side-ing places family, ecology, and economy next to each other, what starts to happen is that the deeper planes of story reframe into an understanding of what is non-trivial, profound, and vital. The "what" of what is being placed side-by-side by a Warm Data practitioner who is hoping to offer insight shifts to implicit realms, is critical, and should be addressed more fully in another study. I cannot stress how delicate this is, the seduction to place an agenda or predefined outcome to this side-by-side process is but a return to the manipulations of propaganda. The lure of urgent transformation as a controlled process is inherently abhorrent to the wildness necessary for aphanipoietic change.

1.14 | Rewilding the Interior

The layout of side-by-side contextual process is where we tend the explicit to make room for the implicit to shift. In the words of the Warm Data hosting theory, we tend the "about" so that what is re-configured is in the "within." It does not really matter what people talk "about" in a Warm Data Lab. There is nothing to capture at that level. What matters is the way the participants are internally sewing together the different conversations and contexts. On a transcript this information is inaccessible. In the Warm Data processes, communication in explicit form is not held to be the communication of interest. That level of conversation is there as a skeleton, onto which the stories *not* told reshape the person who did *not* tell them, the alterations in tone, the re-tilted perception is given free rein to rub memories and stories against each other. One comment that comes up repeatedly is, "Your story changed my story." Through this "side-by-side-ing," stories told change stories *almost* told, and their bearers are able to reshape their impressions in ways that are untamed. By careful tending of the "about" and "within," the rich world of memory and story re-wilds.

The gaps are where the hope of systemic transformation is waiting. In the Warm Data processes, participants are given a structure to re-stitch, to re-wild, to begin a new abductive process into these gaps. Again, by placing the contexts of life side-by-side in new configurations, the aphanipoietic processes are given room, without conscious purpose or goals or defined outcomes, without scripts or roles or trends - to allow the tender new beginnings of another abductive description to form mutually. Through this work, I have found I needed this term to embark on a deeper study of the importance of aphanipoiesis. The changes I witness occurring in the Warm Data processes are completely unpredictable and profound. They suggest ever more vividly that there is a real, if unseen, mingling of the body, culture, education, family - and a whole batch of transcontextual experience that is guiding all other actions. It is to this change that I have devoted my efforts toward systemic transformation.

2 | What Are the Implications of Aphanipoiesis?

Aphanipoiesis offers an introduction to, and an invitation to further explore and develop, a theoretical basis from which to address all that coalesces prior to emergence. The word is a description of the process, but it is not the processes itself. The name is not the thing. This theory is not meant to imply a way to find and expose the unseen, but rather to approach change entirely differently. The unseen coalescence is also ungraspable - in a culture in which change is entangled into an eagerness to grasp, define, analyze and take action. When change is sought through adaptation to existing systems, that change is sourced from the system itself. In this case, perpetuation is more likely than change. However, when the existing structures are not present, organisms must "find a way" by sourcing from unhabituated living, shifting impressions that have been brewing over time. The likelihood is that this existing structure will continue, grooved into habituated responses that often obscure those that have not been practiced.

This trap of the familiar suggests it is perfectly normal and reasonable to continue to search for the car keys under the streetlamp. Aphanipoiesis introduces a new paradigm and theoretical approach to change that sends us to the forest to find what we have lost even if it is dark there. As a concept, aphanipoiesis offers permission to take seriously the significant change taking place in ways that are unreachable by analysis and direct action. This is a moment in which there is a dire need to become and live into ways of being that cannot be informed by the existing structures. How do human beings or other organisms know how to change into something that they do not know how to become? This flexibility for transformation is waiting, outside the familiar. The task now is to create the conditions for vitality - the conditions that encourage what might be recognized as re-wilding in biodiversity in nature - but in humans it could be tending an ecology of ideas. Let them be many and filled with movement that allows new contact - re-wild the aphanipoietic realm.

3 | References

Bateson, G. (2000). *Steps to an ecology of Mind.* Chicago, USA: University of Chicago Press.

Bateson, G. (2002). *Mind and Nature: A necessary unity*. UK: Hampton Press.

Bateson, G., & Bateson, M. C. (1988). *Angels Fear: An investigation into the nature of meaning of the sacred.* London: Rider.

Bateson, N. (2016). *Symmathesy–A word in progress* (Vol. 1 (1)). Berlin, Germany: International Society for the Systems Sciences. Retrieved from https://journals.isss.org/index.php/proceedings59th/article/view/2720

Bateson, N. (2017, May 28). *Warm Data. Hacker Noon.* Retrieved from https://hackernoon.com/warm-data-9f0fcd2a828c

Cambridge Dictionary Press. (n.d.). *Insidious.* Retrieved July 14, 2021, from https://dictionary.cambridge.org/us/dictionary/english/insidious

Kauffman, S. (1995). *At Home in the Universe: The Search for Laws of Self-Organization and Complexity.* Oxford: Oxford University Press.

Korzybski, A. (1933/1958). *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics* (5th ed.). New York: Charlotte Schuchardt Read.

Maturana, H. R., & Varela, F. J. (1980). *Autopoiesis and Cognition: The Realization of the Living.* Dordrecht, Holland: D. Reidel Publishing Company.

Oxford University Press. (n.d.). *Insidious.* Retrieved July 14, 2021, from Oxford Advanced American Dictionary: https://www.oxfordlearnersdictionaries.com/us/definition/american_english/insidious

Pierce, C. S. (1998). *The essential Peirce: Selected philosophical writings (1893-1913)* (Peirce Edition Project ed., Vol. 2). USA: Indiana University Press.

Rosen, J. (2012). Preface to the Second Edition: The Nature of Life. In R. Rosen, *Anticipatory systems: Philosophical, mathematical, and methodological foundations* (2nd ed., pp. xi-xiv). Springer. Retrieved from http://doi.org/10.1007/978-1-4614-1269-4

Russell, B. (1908, July). Mathematical Logic as Based on the Theory of Types. *American Journal of Mathematics, 30*(3), 222-262. Retrieved from https://www.jstor.org/stable/2369948

Somé, M. P. (1999). *The healing wisdom of Africa: Finding life purpose through nature, ritual, and community*. New York: Thorsons.

Whitehead, A. N., & Russell, B. (1910). *Principia mathematica.* Cambridge: University Press.

4 | Acknowledgments

I would like to thank Lance Strate, Phillip Guddemi, Leslie Eubanks, Tim Gasperak, and Andrew Carey for their care and attention in reviewing this document in its content and form. It took many sets of eyes and many minds to produce this paper. The learning described in this document is a culmination of decades of study, generations of experience and, most recently, it has in part been made possible by the whole Warm Data group and the thousands of Warm Data participants.