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The algebra of the protagonist: sustainability, normativity and storytelling

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As advances in scientific, technological, economic and policy dimensions of sustainability challenges fail to produce widespread transformative change, an awareness of their ultimate insufficiency grows. In response, sustainability scholarship and activism are increasingly focused on sustainability's normative dimensions, identity, belief, meaning, purpose, etc. With this recognition comes a growing turn towards narrative as the expressive vehicles of our normativity. In this paper, we aim to build on (Fløttum and Gjerstand. 2017. 'Narratives in Climate Change Discourse.' WIREs climate change. 8.) efforts to develop more precise and structured relationships between sustainability and narratives by looking at what the field can learn from storytelling more specifically. We explore this first by exploring story structure as our society's ubiquitous theory of change; and second, how the story constructs its protagonist to activate the transformative dynamics inherent in story structure. We then conclude by exploring the implications these observations have for sustainability research more broadly.

Keywords: Sustainability; narratives; theories of change; normativity and transformation; ethnography; performance studies

Section 1 – The normative challenge of sustainability and the narrative turn

The ongoing crisis of sustainability has been the subject of growing public attention over the past decades, as issues of climate change, biodiversity loss and other flashpoints of a degrading planet become widely-held concerns (Funk et al. 2020). Happily, this period has witnessed impressive advances in related knowledge and capacity, as our analytical grasp of these problems grows clearer and our technical means to resolve them expands (Berkhout et al. 2010; Nakicenovic et al. 2020; Panori et al. 2020). Encouraging as these advances are, however, they leave us with an increasing sense of their ultimate insufficiency. For despite their progress, a deeper transformation of society remains aloof.

One result of this persistent unsustainability is a growing recognition of the need to move beyond challenges of knowledge and technology, to something deeper about ourselves and our societies. Despite the sophistication and scale of global sustainability

efforts, we have not proven adept at engaging sustainability challenges in terms of individual and collective identity, meaning, value, perception, belief and experience, the elements that comprise what we typically refer to as sustainability's subjective or normative dimensions.

One area in which we see this growing preoccupation with the normative realm is in the growing field of inquiry connecting sustainability with narratives – those expressive vessels of our complex normativity. Over the past several decades, narratives have experienced a growing appreciation as fundamental to how humans construct, experience and make sense of their realities (Gottschall 2012; Schank 1995). For the present argument, we distinguish a sense of narrative here from its common synonym 'story' to imagine narrative as something of an immediate cognitive reflex, a gestalt response to experience. We open our eyes to a static image before us and immediately layout dynamic explanatory and anticipatory scaffolding around the perception. What do we see? How did it get there? Whose actions contributed to this? What implications does it hold for us? Such impulses assemble immediately into an interpretive narrative within which more explicit consideration might occur.

This idea echoes Alasdair McIntire's claim that 'man is in his actions and practice, as well as in his fictions, essentially a story-telling animal' (1981, 201), an argument that would lead Walter Fischer to characterize narrative as not simply a human activity, genre, or mode of expression, but paradigm (Fisher 1984). That is, a fundamental condition within which humanity operates, a point Fischer accentuates with a re-christening: 'Many different root metaphors have been put forth to represent the essential nature of human beings: *homo faber, homo economus, homo politicus, homo sociologicus* … I now propose *homo narrans* to be added to the list' (Fisher 1984, 6). The work of Carl Jung and the field of psychoanalysis that emerged from his thinking also affirms this view of humanity, where the archetypes found within our long-lived practices of storytelling can be deployed as structuring symbols helpful in making sense of our lives.

This sense of humanity's relationship to narrative as paradigmatic underlies recent work connecting narrative and sustainability through fields like textual linguistics or ecolinguistics, described by Stibbe as a field that 'analyzes language to reveal the stories we live by, judges those stories from an ecological perspective, resists damaging stories, and contributes to the search for new stories to live by' (Stibbe 2021). This often incorporates a more focused practice of frame analysis which aims to identify knowledge content driving particular framings of a given issue, along with the solution spaces such framings prescribe (Nisbet 2009; Hulme et al. 2018). Finally, Narrative Policy Framework or NPF (Jones et al. 2014), for its part, takes on the basic conviction of Fischer's *homo narrans*, where 'narrative is assumed to play a central role in how individuals process information, communicate, and reason' (Jones et al. 2014, 10).

And yet, as Fløttum and Gjerstand (2017) lament, within sustainability challenges, narrative is often used in 'non-critical, "pre-theoretical" and "imprecise" ways' (Fløttum and Gjerstand 2017, 2–3). In seeking a more precise orientation towards narrative, the authors integrate an NPF approach with 'narrative sequences' borrowed from Jean Michel Adam. In other words, they add formal 'story ingredients' to the narrative lens: initial situation, complication, reactions, resolution and final situation (Fløttum and Gjerstand 2017, 3). In this, their hope to secure 'the value of the narrative perspective in analyzing and explaining climate change discourse' is pursued through a more precise account of what narratives are and how they work (Fløttum and Gjerstand 2017, 2). We take great inspiration from this effort, seeking a similar opportunity, where the turn towards narrative might benefit from more precise encounters with the structures and mechanics of story as they have evolved in

relation to generations of readers, listeners and viewers. In our case, however, rather than pairing an NPF analysis with further academic research on story structure, we seek to ground our narrative perspective in a literature that is conspicuously absent from academic research on narratives, the profession of storytelling itself.

What do storytellers know about people? About why people do the things they do? About what makes them more or less resistant or open to change? Might the practice of professionalized fiction help us make better sense of the crucial dimensions of meaning, identity, value, belief, purpose and motivation? If so, by what approach? What can we learn from those who build and tell stories for a living, those who are working within that rich, deep and highly evolved relationship between our collective imaginations and the stories we tell? What do they know about how narratives work and how they come to hold such power over our lives? And what use might this be in engaging the often elusive subjective or normative dimensions of sustainability challenges?

This paper explores what techniques and insights from our storytelling industries might benefit our use of narrative within sustainability challenges, and how and where this benefit might emerge. In response to some early feedback, we feel it is also useful to say that we are not interested in using storytelling to improve science communication or to forge more inspired 'climate heroes' of ambivalent individuals. Indeed, we are reticent about prescriptive aspirations generally speaking and fear they obscure more transformative potential lurking in our storytelling practices. The basic assumption we have come to through developing the arguments that follow, is that a better understanding of story will not teach us how to use narratives to *talk* to communities more effectively, but the opposite: how to use narratives to *listen* to those communities. How do the skills of developing story and character help us foster and reflect deeper understanding of place and its potential for transformative change?

The arguments presented here are preliminary, an initial attempt to plot a possible course of action for broader consideration and debate. It is the result of our efforts to combine arts-based research on sustainability (Maggs) with narratives-based work on sustainability (Chabay) in the hopes that a compelling overlap might open a path of further inquiry. We offer it here in a conjectural spirit rather than a conclusive one, in the hopes of stimulating further dialogue, and clarifying a path forward.

Section 2 – Story: a theory of change that we all know

Anyone raised with the Western cultural genres of novels, plays, and screenplays (consider the reach of Disney, for example) has a highly evolved, intimate, sensitive, and sophisticated relationship with something that remains unnamed, unnoticed, and almost entirely invisible. We are, in a sense, blind and hapless devotees to what is often called 'the three-act structure'. This structure is the form that governs the majority of narratives that grip and shape our imaginations, from ancient myths, to Disney animations, nineteenth century novels, and Hollywood blockbusters. Despite the endless variety in content, these stories are built around a common architecture (Campbell 1949; Field 1984; McKee, 1997; Snyder 2005; Dunne 2006; Yanno 2006).

Consider this in terms of movies, where the three-act structure is typically so regimented that instruction manuals propose page numbers where key structural markers must occur. In one of the industry-standard texts on screenwriting, Snyder (2005), the necessary elements of the three-act structure and the page number on which these elements should take place are listed as follows:

Act 1: Thesis

- Page 1 – Opening Image – set mood and tone, establish starting point for protagonist (to be contrasted by final image)
- Pages 1–10 – Set up – introducing world and characters
- Page 5 – Theme stated – expression/illustration of what story is about
- Page 12 – Catalyst – The inciting event, calling the protagonist to something new
- Page 12–25 – Debate – or 'refusal of the call', protagonist deciding how to respond

Act 2: Antithesis

- 25 – Protagonist turns proactive
- 30–55 – Fun and Games – protagonist as 'fish out of water' trying to take action
- 55 – Midpoint – False victory at the end of 'Fun and Games'; Stakes are raised; Time clock appears
- 55- 75 – Bad Guys Close In – Antagonist gaining in power, doubt and dissent fills protagonist/protagonist's group
- 75 – All is Lost – Protagonist on the ropes
- 75–85 – Dark Night of the Soul – Protagonist confronts their failure

Act 3: Synthesis

- 85 – Integration – Insight from B story sparks new approach to A story as A and B intersect
- 85–110 – Application – New insight is applied; A and B stories move towards triumph; Old world ends, new world begins
- 110 – Verification – Proof that change has occurred.

It is with this refined structure in mind that Snyder describes movies as 'intricately made emotion machines. They are', he says, 'Swiss watches of precise gears and spinning wheels that make them tick'. This description may seem startling to our sense of movies as following the impulsive, emotional urgencies of a protagonist or the unpredictable events of an unfolding catastrophe. To see them described as such precise machinery evokes a sense of some purpose-driven technology. What, then, are these emotion machines are for? What purpose has driven their evolution? What pressures have shaped them into current form? In other words, what is it that we, as audiences, want out of the story that has fashioned such a consistent structure as this?

According to the professional industries that have grown up around our relationship to narrative, the machinery of this three-act structure has evolved to optimize a single objective: to carry its audience through an empathetic encounter with transformative change. Encountering transformation is why we watch, why we listen and why we read. The underlying structure of so many of the stories we love has evolved in support of this preoccupation. As writer and editor Cron (2012) and *Cron (2016)*, this is not only what a story does, but what a story *is*. A story, according to Cron, is *not* a character's experience of something, no matter how interesting that experience might be; Nor, as often assumed, is a story a sequence of events, or narrative arc, or plotline – no matter how riveting the course action might become. Instead, Cron argues, the relationship between story and audience has distilled the essence of what a story is down to a single, defining aspect: 'A story is how what happens affects someone who is trying to achieve what turns out to be a difficult goal, and how he or she changes as a result' (2012, 11). Robert McKee

agrees, 'all well-told stories from ancient myths to modern satires express one essential idea, how and why life changes' (Mckee 2021).

Thus, according to much of the literature from the storytelling profession, the gravitational pull of narrative is the transformative arc animated by a particular subjective point of view navigating a series of events. Without this arc in play, intricate plotlines and dramatic events fail to hold lasting purchase over our imaginations. As Snyder remarks, 'tell us a story about transformation, every story is 'the caterpillar and the butterfly'' (Snyder 2005).

To be clear, we are not arguing here that the structure of contemporary movie scripts is something we should transfer to sustainability narratives. Rather, in our quest for varieties of social transformation (sustainability, social justice, etc.), we find the public imagination's predominant relationship to transformation here in the realm of fictional storytelling. By this account, three-act structure appears to be our most common 'theory of change' – one its devotees may not be able to name, describe, or explain, but one whose presence is rewarding and whose absence provokes disengagement. Beyond this interpretive or descriptive possibility, tucked into this 'theory of change' argument lies a critical feature of how it functions. How, that is, the architecture of transformation works, where a three-act structure lays out a course of transformation, and the protagonist is the vehicle by which we are carried on that journey.

As detailed analyses of story form and function argue, the protagonist serves as the interface for transformative change through its role as the 'sense-making' instrument of the story. A literary technology is inserted into circumstance to detect, define and determine what those circumstances mean. Within the purview of the storytelling professions, the principle is simple: Nothing in a story means anything to us as an audience if we cannot tell what it means to the protagonist (Weiland 2016, 21, 70-73; Cron 2012, 25–27). Incidentally, how different is this from our lived experience? What do we look to know what matters, what has value, what is good? Why do star athletes help us choose car insurance? Why do movie stars inspire political decisions?

Narrative technique creates this alignment between audience and protagonist with a series of simple steps. First, we have to make our audience relate to the protagonist through a moral act – we have to see her 'save the cat', as the title suggests. This is a form of classic 'imprinting', where we as audience members are born into the world of the story like baby geese, bleary-eyed and wondering who to follow around. The 'save the cat' moment is when the story tells us, in very primal ways, the protagonist is our safety. The author can then expand this character with complicating traits, but the imprinting achieved through this technique will secure our allegiance regardless.

It is one thing to know that we are following the protagonist through their adventure, yet another to be clear on how we do it. How do audiences track their protagonist's arc such that we can navigate their inner transformative journey along with them? For this, we have to understand what the protagonist's goals are. What is the protagonist *wanting* to accomplish? What is the protagonist *needing* to accomplish? (More on the difference further on). Once these are clear, each event, each action, and each scene, however subtle, will be assessed internally by us based on its relationship to these goals (Cron 2012, 25). Does it leave the protagonist closer to or further away? Is it a 'positive' or a 'negative' (much screen and novel writing literature suggest each event be marked with a + or – to help shape dramatic structure and tension).

In terms of the narrative-sustainability relationship, then, if the story represents our structured relationship to transformation, and the protagonist is the vehicle by which we participate in that transformation, then understanding how this vehicle is constructed

might represent a critical lesson of storytelling for the challenge of transformative change more broadly.

Section 3 – The algebra of the protagonist

When considering constructing a protagonist, there is an approach to design and engineering that offers an ideal metaphor. 'Tensional Integrity' is, as the name suggests, an approach to engineering where structures acquire their integrity from a series of essential tension points, often giving such structures – tables, chairs, bridges, sculptures, etc. – the appearance of defying gravity, or floating in midair. Here, the overall structure holds, in these instances, due to the tension at play between the parts. In exploring what a protagonist is and how it works, we suggest that just as with chairs, bridges, and sculptures in the material world, the protagonist exemplifies tensional integrity in the symbolic world.

One way to account for this tensional integrity is through K.M. Weiland's work on character. In *Creating Weiland (2016)* she describes the protagonist as constructed through an essential balancing of four elements, the Want, the Need, the Lie, and the Ghost. Briefly, these four features are defined as follows:

- Want – what the protagonist wants to accomplish, one of life's many 'trophies', typically an external goal, e.g. an obsession with money or power, winning 'the boy', the race, election, etc.
- Need – the deeper and typically invisible internal yearning that drives the protagonist, the need for a dose of life's wisdom, e.g. to belong, to be accepted, loved, found, etc.
- Lie – the false belief, similarly invisible, that prevents the protagonist from understanding and addressing their need instead of pursuing the want, e.g. 'people will only like me if I am successful'.
- Ghost – the character's history or backstory that fuels the lie, e.g. a character's shaming experience of her mother's poverty, the exclusion it caused.

Weiland uses a variety of popular stories to exemplify this typology of want, need, lie and ghost, offering us a deeper sense of both their differentiations and their interrelations (Table 1).

By this account, we might imagine the protagonist as constructed from a kind of algebra. We create a protagonist by solving for these four variables. Critically, however, the solution is not found by putting any content in place, but rather solving for each variable in a way that produces structural integrity via an essential tension. If Tolstoy was right in saying about fiction 'you can invent anything but you cannot invent psychology' (Li 2020), then the algebra of the protagonist represents an approach to 'telling the truth' about a character by getting the psychology 'right' instead of simply 'making it up'.

In this regard, we might imagine this algebra like the rigging of a sail, where sail, cables, mast and boom must pull together at appropriate points and with sufficient tension for the sail to catch wind and move the vessel through the water. We cannot just put these pieces in place, they must be the right pieces, attached in the right way. The proof for both sail and protagonist is that when done so, the vessel can no longer remain still.

A similar image for this algebra is harmonic tension in music. Play C, E, G and B flat together and the pull of this combination is irresistible, we simply *have* to play an F major

Table 1.   Want, Need, Lie and Ghost from *Creating Character Arcs* (Weiland 2016).

Story	Want	Need	Lie	Ghost
Thor	Be king	Humility and compassion	Might makes right	His father's promise he would be King
Jane Eyre	Be loved	Spiritual freedom	Love is earned through servitude	Jane's Aunt's refusal to love her
Jurassic Park	Study dinosaur bones alone	Protect the future of life instead of the history	Kids are not worth the trouble	(unstated)
Toy Story	Be Andy's favourite toy	Share Andy's love	Your only worth is in being the favourite	Knowledge of what happens to unloved toys
What about Bob?	Be cured of mental problems	Be loved for who he is	People only pay attention to you if they think you are crazy	A divorce
A Christmas Carol	Money	Love of fellow humans	A man's worth is measured by money	Unloving father

chord in response. And yet that pull is not in any of those notes on their own. It is not an aspect of either C, E, G or B Flat by itself. Only in vibrating simultaneously do they set the forces of transformation in motion.

A final image to consider here in conceiving of this algebra of the protagonist is the mythical Gordian knot. That is, when we solve the algebra of the protagonist correctly, we will have linked want, need, lie and ghost in ways that tie them into a Gordian knot, a problem that cannot be solved on its terms. A problem whose solution exists in a different context, and therefore, transforms either world or self in its resolution.

The basic thesis here regarding the insight storytelling offers sustainability is that to get our normative or subjective dimensions on a path to the transformation we need to identify and orchestrate precise and appropriate forms of tension that cannot help but incline towards their resolution. And not just any resolution, but a resolution that is wired into the identity (lie and ghost) such that it pulls that identity through a process of transformative change.

In stories, this agency does not lie with plot – no sequence of events can accomplish this, no matter how dramatic, even untold disasters at the hands of runaway global warming; Nor does this agency lie with setting – no place, no matter how spectacular, spooky, beautiful, sacred or ecologically significant, can carry this transformative agency; Nor does it lie in theme, no matter how heavy its truth or sharp its insight into the human condition. As far as the current analysis goes, only the protagonist along with its essential algebra activates the transformative energy of a story. To do so, all four elements must be correctly identified and related to one another such that they forge the tension that both demands and pulls inevitably towards a transformative resolution. No matter how exciting the problem, watching a protagonist face a problem (want) is unengaging. Instead, we need to watch the protagonist face what the problem *means* (need). But the story carries no transformative potential, unless a misalignment between the problem and the meaning, the want and the need, is driven by an underlying misbelief (lie), that is rooted existentially in the identity via past experience (ghost).

In this regard, we can follow an analysis of story form to a priority of transformation driving the 'why' beneath our relationship to the story, and to a recognition of the protagonist as the 'how' of meaningful engagement with such transformation. As a result, we might even glean a certain prescriptive orientation here: *Find the ghost that produces the lie that buries the need and drives the want*, and we may find ourselves with the keys to Western Civilization's most compelling and familiar theory of change.

Section 4 – Sustainability, normativity and the algebra of the protagonist

At least, that is, insofar as our relationship to fiction is concerned. What happens when we return to questions of sustainability with insights from story mechanics and this algebra of the protagonist in mind? Here, we offer several considerations to lend preliminary shape to this question and indicate possible directions for further research.

First, there is the basic issue in sustainability narratives as to whether they have identifiable protagonists at all. While 'heroes' and 'protagonists' are not necessarily the same thing, Fløttum and Gjerstad observe, 'in general, there seems to be a quasi-absence of heroes in climate change discourse' (2017, 12). In part, this may be intentional, that in trying to relate to the inherent complexity of sustainability challenges, we may be reluctant to distill matters into the linear dynamics of a narrative arc, rooted in a single point of view. Perhaps sustainability requires the opposite of conforming to standard story-telling tropes, and that the arguments presented here represent a dangerous regression to linear, causal mental models that detract from our ability to meet the complex normative challenges of sustainability. We might consider this in light of two questions Fløttum and Gjerstad ask in response to their observations: First, 'what are the reasons for this [lack of protagonists]?' and second, 'could it explain, at least in part, why public opinion often fails to coalesce around a set of policy proposals regarding climate change mitigation?' (2017, 12).

To the first question of why protagonists are so absent from climate discourse and other sustainability narratives, opposite explanations seem plausible. First, as suggested above, the systemic, collective, non-linear, holistic and open-ended nature of sustainability challenges may have a kind of inherent resistance to the structures and instincts of story-telling, with its reductive, linear, confined and conclusive desires. If so, the path towards an effective, relatable and compelling normative engagement with sustainability may be far longer, and more obscure than the urgency of the problem allows. Conversely, sustainability may fail to establish clear protagonists thanks to its roots in epistemic Modernism. Here, sustainability inherits the tendency of Western Modernist rationality to separate subject from object, value from fact, nature from culture, such that we might establish the real, true facts about the world without values, without belief, without identity, without meaning, without subjectivity. Indeed, without subjects at all.

Here, a potentially critical flaw in sustainability's normativity becomes apparent. We have spent the past few decades making a massive effort to tell a sustainability story focused on the narrative's setting or scenery, that is, 'the environment'. Through a Modernist determination to make the story undeniably and irresistibly factual, we have failed to make it affectively compelling and meaningful in salient contexts. Here, the need for protagonists might be read in terms of the need to move beyond Modernist constructions of sustainability rooted in absolute, objective accounts of natural systems. This may not get us towards the normativity that a holistic, systemic, pluralist, emergent condition might require, but could activate a deep and active cultural capacity with the potential to extract us from the subject-less condition of Modernism.

To Fløttum and Gjerstad's second question, as to whether a lack of protagonists could explain why public opinion struggles to 'coalesce' around climate policy and action, the present exploration of storytelling may offer critical insight. Viewed through the arguments presented here, we know we can have all the plotlines in the world, scientific uncertainty frame, national security frame, polar bear frame, money frame, catastrophe frame, and justice and equity frame (Hulme 2018); we can identify structural markers: initial situation, complication, reactions, resolution and final situation; and we can theorize their intersections, where setting = facts, plot = events, moral = policy (Fløttum and Gjerstand 2017, 3); But if we don't have a protagonist, we don't have a story. As a result, sustainability efforts have succeeded in making the looming end of civilization somehow unengaging. Might we consider, then, that while narratives of climate disaster have been groaning on for decades, the story of sustainability, insofar as broader cultural attention is concerned, has yet to even begin?

A fourth consideration when turning to story structure as a means of grounding sustainability's subjective dimensions more effectively might consider the universalizing capacity of compelling protagonists. That perhaps, as suggested above, there may be subtleties lost to the parameters of story structure, we may be trading such subtleties for wider appeal. In Chabay et al. 2019, the authors explore a series of five analytical categories (6–7) proposed by Renn (Renn 2019) that offer a series of conditions by which a narrative will or will not take on meaning: Associative plausibility, Framing, Normative affirmation, Emotional identification, and Motivational incentives. Here the 'meaning interface', is composed of a series of particular situational features. Is it worth asking if we can expand the meaning interface beyond these situational specificities? That is, how much will moving the meaning interface from situational features to a well-crafted protagonist allow identification to move from the particular to the universal? After all, well-crafted protagonists with few analytical categories in common with their audiences still find their way deep into our self-understandings.

Section 5 – Stories we can listen with?

A final consideration regarding the relationship between storytelling and sustainability points towards its methodological implications. That is, how we might implement this idea in practice. This paper proposes that the current turn towards narrative may find added benefit in including a fuller capacity of storytelling. We can always identify narratives within sustainability issues, but here we wonder if we can go further, or become more specific. Can we find the tension of the protagonist? That algebra of particular normative content operating in a particular sustainability context? Where wants, needs, lies and ghosts are understood precisely enough to be worthy of Tolstoy's insistence? And can we locate those dynamics within the transformative pull of a story arc? Can we situate that algebra within the critical junctures of a narrative structure, posed here as a theory of change?

Do we find the beginnings of a methodology here? Starting with a sense of story as our ubiquitous, even compulsive, relationship to transformative change, can we turn to the story's relationship with the protagonist not as a pursuit of a singular hero, but as a means to better understanding of an issue's normative aspect? That is, to establish coherent normative analyses of particular contexts by structuring ethnographic work using this algebra of the protagonist? Can we explore sustainability issues in terms of their subjective dimensions of want, need, lie and ghost? What happens when we try and make sense of a given context with these dimensions in mind? How does it change the way we map the normative, subjective dimensions of a given controversy within a given context? How

does it change the way we construct the social and cultural dimensions of a sustainability challenge? Does it push us towards a more textured, precise and empathetic understanding of the humans involved?

Much in the way an author must honour her characters, even the dislikeable ones, if she is to create compelling fiction, the first methodological step we might take is to deploy this idea of algebra to shape our descriptive efforts more empathetically, perceptively and effectively. That is, to borrow from the evolved insights of fiction the techniques of modeling subjective dynamics in ways that enable transformation. To rig a sail from this normativity such that it cannot remain still, to tie it all in a Gordian knot such that deeper transformation is in order.

Once we've done so, once we have managed to understand the normative dimensions of a sustainability controversy well enough that we can accurately identify the overarching want that is asserting itself, holding command over people's values and perceptions, the lie lurking beneath that continues to drive people towards this want, the ghost that continues to fuel this lie with plausibility, and the need that might liberate the normative content from this structured, self-reinforcing dynamic, what then?

Turning back to our three-act structure, algebra in hand, we might now be better equipped to formulate more effective 'inciting incidents' or 'catalysts' as they are referred to in the typology above. Certainly, sustainability discourse has demonstrated its capacity to generate ineffective inciting incidents over the past few decades. The continued use of doom and harm reduction for example, with its expressions of spiraling catastrophe, suffering, guilt, shaming and self-contempt as tropes we expect the public imagination to rush towards has proven unable to move us beyond Act 1 (Robinson and Cole 2015). A better understanding of the relationship between the algebra of the protagonist and effective inciting incidents is one important point departure for the present argument. Armed with a clearer sense of the internal rigging at play within a context's normative content, might we judge the angle of the sail with greater precision and aim our discursive winds of change to greater effect?

In this, the algebra of the protagonist might lead beyond the merely descriptive to help us understand the tensions that shape the formation of narratives and inspire individual and collective agency towards sustainability. Further research into how narratives emerge informally, in established media channels and across new social media platforms can all be informed by the basic ideas presented here. As our complex challenges grow increasingly inseparable from the normative landscapes within which they sit, and the noise of political agency grows ever louder and more polarized, listening with more openness, empathy, and precision for the notes of progress and transformation will be critical. More than teaching us what to say in pursuit of our agendas, stories enhance our capacity to listen beyond the limits of those agendas.

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No potential conflict of interest was reported by the author(s).

Notes on contributors

David Maggs carries on an active career as an interdisciplinary artist and researcher focused on arts, climate change, and sustainability. A student of Jane Coop, Andre Laplante, and Marc Durand, he is the founder and pianist for Dark by Five (darkbyfive.com), has written works for the stage, and collaborated on large augmented reality and virtual reality projects (see Mummer's Journey). David is the artistic director of the rural Canadian interarts organization Gros Morne Summer Music

(gmsm.ca), and founder and co-director of the Graham Academy, a youth training academy founded in honour of his teacher and mentor, Dr. Gary Graham. He initiated and co-produced the CBC doc channel film The Country, exploring the Canadian government's handling of indigenous identity in Newfoundland. As a fellow at the University of Toronto's Munk School for Global Affairs, David co-authored Sustainability in an Imaginary World (Routledge Press, 2020) with mentor and long-time collaborator John Robinson, exploring the relationship between art and sustainability. He is former senior fellow at the Institute for Advanced Studies in Sustainability in Potsdam, Germany, where he led work on culture and climate change. Currently he is the inaugural Innovation Fellow in residence at the Metcalf Foundation exploring the role of art in society, with particular focus on innovation, climate change, and cultural policy. David has been a featured speaker at the Canadian Arts Summit (Charlottetown, Banff, Montreal), The International Transdisciplinarity Conference (Leuphana), the National Valuing Nature Conference (Corner Brook), The American Association for the Advancement of Science (Vancouver), Swiss Federal Institute of Technology (Zurich), Sustainability Through Art Conference (Geneva), the Narratives of Transformation conference of the International Association for Analytical Psychology (Berlin), The Arts of Living with Nature (Kyoto), and elsewhere.

Ilan Chabay's three careers have taken him from natural science research to social entrepreneurship to social science research to a transdisciplinary synthesis of all three. Over the past 15+ years, his focus has been on understanding processes of societal change to sustainable futures, including scientific, local, and cultural knowledge co-production; characterizing narrative expressions of vision and identity to guide and motivate collective behavior change; using narratives to model social dynamics; collaborative creativity for social innovation; design of games and exhibitions to engage publics with accessible experiences to stimulate curiosity about sustainability. Since 2008 Ilan has been head of the knowledge, learning, and societal change international alliance (KLASICA) for understanding and catalyzing positive collective behavior change to sustainable futures, based at IASS from 2015-2021. In the past decade, KLASICA produced new conceptual and empirical knowledge in 40+ publications. KLASICA 2.0 launched in 2022 as an independent international platform of researchers and institutions, with plans for an innovative Digital Observatory of Narratives of Sustainability (DONS).

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