

RESEARCH ARTICLE

Creative arts for sustainability transformations — Exploring children's theater for the UN Sustainable Development Goals

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This article responds to recent calls for more creative expressions of climate and sustainability transformations. In particular, research literature argues that the formulation of new narratives of sustainable societies may function as a prominent intervention for system changes. Yet, few empirical studies exist on how creative climate and sustainability storytelling elicit varying levels of awareness and engagement. With the intention to advance scholarship in the role of narratives to create engagement with sustainability transformations, this study investigates children's theater for the UN Sustainable Development Goals (SDGs) as one research site. By analyzing the interactive children's theater play "Esmeralda and the Dragon—The Global Sustainability Goals," we show that creative storytelling can offer a meaningful space for engagement with Agenda 2030 and the UN SDGs. In particular, we find that (1) children's cognitive and emotional associations and experiences shape the meaning of and responses to the SDGs and (2) the play's fictional elements resonate with children's emotional frameworks. Based on the results, we argue that new stories are needed for sustainability transformations and that there is transformative power in the creative and performance arts in this respect, and we call for further exploration of various public engagements with sustainability storytelling.

Keywords: Environmental communication, Sustainable Development Goals (SDGs), Narratives, Performing arts, Sustainability transformations, Post apocalypse

Introduction

Since 2015, when the UN adopted 17 global sustainable development goals to transform our world, scholars have increasingly studied sustainability transformations so as to argue that profound societal transformations are urgently needed in response to current unsustainable trajectories. The 2030 Agenda for Sustainable Development sets out to "take the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path" (UN General Assembly, 2015, preamble), and the Agenda has been described as "an example not only of a major transformation, but of a quantum leap transformation" (Linnér and Wibeck, 2020, p. 224). In addition to scholarly interest in governance for transformations, scholars point to the need to examine the potential of

people to generate systemic transformations (O'Brien, 2018). While Linnér and Wibeck (2021) found that public engagement and communication were important in providing a direction for deliberate transformations, there are not so many others who have investigated ways to engage, connect, and convene various publics to act in support of the Agenda 2030 and the Sustainable Development Goals (SDGs). While The Deputy Secretary-General of the United Nations, Amina J. Mohammed, stresses the need to ensure platforms for meaningful public participation and engagement (Mohammed, 2017), Franson and Zeller (2018) point out that we face a range of challenges in engaging the public in societal transformations, a problem which results from the far-reaching scope of the Agenda 2030 communication campaign (i.e., its attempt to reach the entire population). The authors argue that the idea to reach "everyone" makes it difficult to create a single clear and compelling message to reach target audiences and resonate with diverse individuals.

Along with increased attention to how publics engage with systemic and profound societal transformations, many researchers now argue that new narratives about sustainable societies can intervene more effectively and powerfully for system changes (Rockström and Klum, 2015; Fenske and Norkunas, 2017; Veland et al., 2018; Linnér and Wibeck, 2020; Kall and Asplund, 2022).

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Scholars and societal stakeholders alike are calling for stories based on a new way of narrating and engaging with our planet: stories that help us explore pathways to sustainability and to achieve goals for a transformed fossil-free society. Such new narratives of human and planetary well-being (Waddock, 2020) include other ways of being and relating to nature through values of kindness, compassion, gratitude, empathy (Jazaieri et al., 2014), interconnectedness, and altruism (Wilson, 2015) or—in the words of Agenda 2030—narratives for people, planet, and prosperity. While such approaches are not very prominent in traditional models of climate and sustainability communication, where the transmission of facts through emergency rhetoric of risk stands in focus (e.g., O'Neill and Nicholson-Cole, 2009; Hulme, 2020; Kall and Asplund, 2022), Heras et al. (2016) suggest that arts appeal to open our senses to diverse ways of understanding the world beyond rationality. The authors claim that the participant-centered, playful, and embodied character of performative approaches significantly add value to explorations of possible and desired futures. Yet, as Boykoff (2019) identifies, analyses are still lacking on how creative climate and sustainability communications elicit varying levels of awareness and engagement.

To advance scholarship in the role of narratives and stories to create engagement with profound societal changes, this study focuses on how performing arts can contribute to public engagement in narratives for sustainability transformations. Following calls for more audience-specific research in sustainability communication and engagement literature (Wibeck, 2014; Franson and Zeller, 2018; Leal Filho, 2019), this study focuses on children's theater for the UN SDGs. Children differ in many respects from the larger public; for example, the younger the audience, the less emphasis can be placed on cognitive information processing, while creative drama and fantasy may more directly stimulate cognitive, social, and emotional engagement (e.g., Lillard et al., 2013; Berkhuizen, 2020; Doyle, 2020; Moradimokhles and Darvish, 2021). This article specifically asks:

- How do performers and young children jointly create, shape, and circulate various sustainability narratives?
- In what ways do children bring in cognitive and emotional frameworks in response to the performance experience?

Creative sustainability storytelling

The study of sustainability and performing arts (including dance, music, and theater) for public understanding and engagement in sustainability storytelling encompasses a diverse set of publics and practices, while remaining fairly unanimous in its focus on reconnecting people to a sense of unity with landscapes and natures. This section reviews the literature in 3 interlinked areas of research.

Performing arts as an expression of identity that similarly contributes to publics' care of their local environment. Aaltonen (2015) suggests that a performance can be seen as connecting human identity to the natural world and, as

such, exploring our construction of human identity as perennially entangled and intertwined. In combining storytelling with sensory experiments such as walking barefoot, listening to the forest, and sharing food with wild animals, the interactive performance *The voice of the forest* nourished an empathetic relationship between the participating children and trees growing in the area, as well as helped improve the children's awareness of the interconnectedness of all life forms. Rather than using sensory experiments, Heras et al. (2016) used scenario-based participatory theater to explore alternative futures, as well as interconnections and affective bonds between participants and their natural heritage. Performed interventions, they argue, allowed for abstract concepts to be felt as acting, and reflecting on acting encouraged participants to experiment in an embodied way. Through these performed interventions, participants also identified both individual and collective actions, furthering community identity recovery in coordinated actions to take care of their environment. As another example, Levine (2020) explores how the theater play *Bears*—in which Indigenous people resist the valuation of oil over Indigenous rights in Western Canada—helped to foster new forms of interspecies and intergenerational intimacy.

Performing arts as community, participatory, or site-specific theater for collective involvement. Another strand of scholarly literature in the intersection of sustainability and performing arts applies theater-based participatory tools to empower target groups, promote community development, and direct social change. For example, Brown et al. (2017) studied how participatory drama may help people to understand the resilience of coastal communities in the United Kingdom and Kenya. The authors conclude that while the performance in Cornwall helped participants to “really” experience what flooding means, the performance in Kenya, where the population has already experienced flooding, rather helped participants identify radical solutions. The interactive nature of a participatory drama, the authors argue, invites people to come up with their own solutions and “practice for reality, thereby changing them from subjects of social-environmental conditions into active agents that contribute to the creation of knowledge around and with their environments” (Brown et al., 2017, p. 2). In addressing water scarcity in South Africa, Onyenankeya and Salawu (2018) similarly found that performance-based methods effectively raised awareness about water issues, and also contributed to attitudinal and behavioral changes. Likewise, in addition to emphasizing on collective involvement in ways of practicing, Silva et al. (2018) explore artistic interventions for collective involvement in sustainable culture-driven development strategies.

Sustainability theater and emotions. As both previous sections indicate, much if not all sustainability performance work engages with emotions. For instance, the study by Brown et al. (2017) dealt with grief, humor, and empathy in stories of resilience. Empathy was also strongly emphasized by Aaltonen (2015) in the study of how interactive performances nourish empathy in children toward trees growing in the area, as well as by Heras

et al. (2016) in their study on how participants interconnect affectively with their natural heritage. Hence, emotional engagement, and in particular empathy, seem to crucially impact how people respond to events (Brown et al., 2017), behave toward local natural sites (Heras et al., 2016), and connect with non-human worlds (Aaltonen, 2015; Levine, 2020).

In sum, while the study of sustainability and performing arts for public understanding and engagement in sustainability storytelling explores relationships and interconnectedness, the literature also highlights the theater's role in criticizing, problematizing, and empowering audiences to take part in social change. However, based on this overview of creative sustainability storytelling, we draw the conclusion that few studies have analyzed cultural expressions of the UN SDGs in depth. Recognizing this gap, this study offers insight into the dynamics of how the ideas and emotions of the Agenda 2030 project to transform our world are shaped.

Analytical departure points, method, and material

Theoretically, this article draws on dialogical theories on sense-making and meaning construction to answer research questions on creative storytelling, and to explore how performers and children jointly create, shape, and circulate various sustainability narratives. The theoretical tradition of dialogism holds that meaning is created when we interact with others and the world (Linell, 2009). Hence, a dialogical approach emphasizes that human existence, thought, and language are thoroughly interdependent with the existence, thought, and language of others (Marková et al., 2007). In line with the theoretical tradition of dialogism, this article views the characters of the play and children as conversationalists who interact while co-constructing the meaning of their world (cf. Dewulf et al., 2009). Specifically, this means that we, first, treat dialogue as interaction between the main characters Esmeralda and Sebastian, and children in the audience (Marková et al., 2007; Linell, 2009); second, we consider dialogue as an interaction among ideas, thoughts, and arguments developed as the theater play unfolds. The analysis concentrates on how content is constructed and how characters and children generate and circulate ideas and understandings to explore the UN Sustainability Development Goals. Of particular interest are in what ways cognitive and emotional frameworks inform the joint construction of meaning.

Based on initial conversations between the researchers and the artist, the playwright, performer, and musician Annika Lykta incorporated all 17 SDGs into the theater production "Esmeralda and the Dragon—The Global Sustainability Goals." The intention was to adhere to the Agenda 2030 statements that the SDGs are "integrated and indivisible" and that "the interlinkages and integrated nature of the Sustainable Development Goals are of crucial importance in ensuring that the purpose of the new Agenda is realized" (UN General Assembly, 2015, p. 3–4). The theater production was further developed for the purpose of this study to engage 5- to 6-year-olds in the United

Nations global goals to transform our world. Based on ideas of detailed readings of empirical examples (Schneider, 2001; Kahan and Carpenter, 2017), this article draws on 5 interactive performances with 82 children to explore how performers and audiences jointly construct meanings for the sustainability goals. The children all attended preschools in suburban/rural areas of Östergötland in south/middle Sweden. However, the performance was not designed as part of the preschool curriculum and the study of learning processes, but for the purposes of researching audience-specific departure points for public engagement in narratives for sustainability transformations. Five preschools were chosen because the schools worked in ongoing fashion with the theme "The world needs a new narrative." While 2 of the performances were played at the local Community House, 3 of them were played at each preschool, respectively. While the region hosts 2 large cities, it is also known for its local production of article and packaging materials, farming landscapes, forests, and more recently an expansion of private housing in the area. The region also hosts one of Sweden's largest universities and therefore attract many young adults who move there to study and build a career. At the time of the study, the unemployment rate in the region was 9%, which corresponds to the average unemployment rate in the country. The children attending the performance thus come from diverse socioeconomic backgrounds while being homogeneous in their ethnic Swedish background.

The performances were video- and tape-recorded and transcribed verbatim, including laughter, repetitions, pauses, and silence (cf. Linell, 1994).¹ In addition, the 3 researchers noted children's nonverbal actions such as laughter, body language, and facial expressions, to inform the analysis of both the performer's and children's interactions, for example, how characters and children generate and circulate ideas and understandings to explore the UN Sustainability Development Goals. Furthermore, we treated the transcripts as one text, examining trends and patterns across the groups, rather than seeking similarities and differences between the groups (Krueger, 1988). In the Results section the groups are presented as Group 1, Group 2, and so on. Caregivers' consent in the research study was collected for all children.

Results and analysis

The first part of this section presents the theater play Esmeralda and the Dragon's narrative and characters (see photo) as the story unfolds. The second part of the section addresses the 2 specific research questions concerning how performers and young children jointly create, shape, and circulate various sustainability narratives. Here we also analyze how children's cognitive and emotional frameworks inform such processes.

1. Caregiver's consent concerned audio recording to enable performer/child interactions. The video recordings targeted the performer to access contextual explanations of sounds and nonverbal interactions such as laughter, body language, and facial expressions.

Esmeralda and the Dragon —The Global Sustainable Development Goals

As soon as the audience sits down, Esmeralda stumbles and falls into the room on her mischievous and unruly flying carpet. Once she manages to calm the carpet down, it seems like the dragon Sebastian is gone. Where might he be? When he is finally found, the audience is captivated by the main characters of the theater play “Esmeralda and the Dragon.” They have come, we are told, from an island far away—Terra—and are here to seek the children’s help to make Terra a better place.

At Terra, we are told, most people are fine. There are schools, kind friends, clean air to breathe, and clean water, but Esmeralda also tells us that not everyone has enough food to feel full after eating. There should be no hunger or

full of *Large-Flying Dragons*. During the performance’s longest silence, Sebastian shows how the large-flying dragons fly slowly in the wind.² Esmeralda tells us that when humans first arrived, they initially lived in harmony with the animals, but after a while, they started hunting them and chopping down trees. There are not so many animals left now. The weather, Esmeralda tells us, has also become strange on Terra. It is drier but with more and more rain and storms, and along with a dirty sea, more and more animals have become endangered. What was the name of the dragon species that does not exist anymore? Esmeralda and Sebastian think together . . . : “*White-headed Blunt-nosed Dragon!*” Sebastian starts to cry. Esmeralda comforts him and plays Sebastian’s favorite melody on the harp to make him feel better.



Photo: David Winnerstam. *Esmeralda and the Dragon*, Långsjö Theater.

poverty, she says. Everyone should have a comfortable bed; clean water; and good, nutritious food. She lets us know that 1 in 9 people who live on Terra is malnourished and she asks that every ninth child in the audience raises his or her hand. She then asks for the children’s help on how to make sure that everyone on Terra can access food. She writes the children’s suggestions on a writing pad, which she puts close to the basket in which Sebastian is taking a rest. After the exchange of ideas on how to end hunger, Esmeralda too becomes hungry and she starts to eat an apple, but when she starts eating, Sebastian also gets hungry. He gets to taste the apple and his bad table manners—apple pieces fly around the room as he takes pieces from Esmeralda’s mouth—make the children laugh. We learn that his bad behavior is because he is a little dragon puppy—only 73 years old! We are told that Sebastian is of the unusual dragon species, *Large-Flying Dragon*. There are only 7 of these left on Terra. One thousand years ago, there were no humans on Terra, only magical creatures like unicorns, dragons, pegasi, and manatees, and it was

After Esmeralda finishes the song, she looks with a sharp but wondering gaze at a point on the stage. She says: “Wait a minute. Surely, I put the carpet there?” and with the help of the audience she finally finds the carpet. In the story’s perhaps most energetic passage, she wrestles with the obsessive carpet that does not want to lie still where Esmeralda put it. But finally, when Esmeralda promises to tell a story, it calms down. As the carpet rests beside Sebastian, the story we hear is the story of the Twin City. To the sound of harp tones, we learn that The Twin City is the city in which Esmeralda and Sebastian live. The Twin City was originally 2 different cities separated by a river. The 2 cities of Epera and Lara each had a mayor. The mayor of Epera wanted to build a wall around the city so that he could control everyone who passed in and out of the city. On the contrary, Lara’s mayor wished for more

2. Sebastian is a hand puppet, thus controlled by the actor who helps him fly around the stage.

cooperation and imagined a bridge between the 2 cities. The mayor of Epera, however, was so angry due to the toxic smoke from the factories outside Iara, that he threatened war. Sofia and Oliver—2 children who worked in one of the factories—knew all the solutions to the polarized views and unresolved problems of the cities. From working in the factories, they had learned manufacturing, building, and figuring out new solutions. Sofia and Oliver talked about solar cells, wind turbines, and purification machines. They also wanted working days to be shortened, and child labor to be banned. Although they learned a lot by working in the factories, they preferred to go to school. And instead of everyone buying new stuff, they suggested that citizens could trade more and repair what was broken. The mayors laughed at these crazy and hilarious ideas, but Sofia and Oliver did not give up. The discussions lasted all night but until dawn when everyone was most tired, the mayors said “—Let’s go then.” And thanks to Sofia and Oliver, things have only gotten better in the city. The dragons have returned. People are happier and feel better. With a beautiful bridge over the river, the city is today called the Twin City and has a song named after it:

*Epera and Iara,
two cities became one,
we call it the Twin City, we call it the Twin City.
The war was so close and people they suffered,
the dragons fled their way.
But everything went from wrong to right, we call it
the Twin City,
we call it the Twin City.*

And with the song, the theater play “Esmeralda and the Dragon—The Global Sustainable Development Goals” ends. Esmeralda says thank you to the children, packs the writing slate full of good advice, takes the basket with Sebastian in it, along with her harp and the carpet, and walks away humming.

In-depth analysis of the performer’s and children’s interactions

As the previous section illustrates, Esmeralda and the Dragon is a story about taking action for sustainable development. While it implicitly addresses all of the UN SDGs, the interactions between the characters and the audience could specifically be seen in terms of the SDGs No Poverty (SDG 1), Zero Hunger (SDG 2), and Life on Land (SDG 15).

Engaging cognitively with SDG "No Poverty" and "Zero Hunger"

In the sequence where the play addresses SDG 1 on No Poverty and SDG 2 on Zero Hunger, Esmeralda tells the children that 1 in 9 persons who live on Terra does not receive enough food to be healthy and play all day. To concretize the idea of 1 in 9, she engages the children in an exercise where every ninth child is allowed to raise their hand. The participant observations noted that the children lose interest and the interaction diminishes in the sequence where the abstract concept “every ninth

person” is concretized. The children are active with a physical gesture, raising their hand, but the sequence lacks verbal interaction with a few exceptions, such as when a child in Group 2 adds that you should not only be healthy and play but also have the strength to run. The sequence indicates that this concretization may not stimulate the same level of commitment among the children as the sequence where they verbally engage in the more concrete and direct question of how to access food:

Esmeralda What should we do to get food? Where does food come from?
Child The store!
Child The store!
Esmeralda But what if you have no money for food?
Child But then you can just go out and hunt in the woods.
Esmeralda We can hunt. Hunt the animals. (Child Yes) But what do you do if the animals run out then?
Child You can only hunt one animal a day.
Esmeralda You must not hunt too much.
Child Daddy. My dad, he kills many animals because he likes meat
Esmeralda He likes meat so he hunts animals. Yes, that is a good suggestion. We simply have to hunt just enough (Group 1)

The excerpt illustrates how Esmeralda seeks to deepen the children’s first association of where to get food. When Esmeralda asks “Where does food come from?” one child bursts out “From the store!” The reply is immediately reaffirmed by a second child. As Esmeralda is not satisfied with the children’s answers, she counter-questions the assumption and asks what to do if you have no money for food. A third child enters the conversation and replies with a tone of obviousness that one can simply go hunting. Esmeralda counter-questions once more and asks what to do if all the animals in the forest are gone. The third child again delivers the solution—“you can only hunt one animal a day” and Esmeralda repeats the child’s statement. On the note of hunting, another child takes the next turn by telling Esmeralda about their family experiences of her dad killing animals, as he likes to eat meat. Esmeralda closes the conversation by concluding that that hunting was a good suggestion as long as you do not hunt too much.

This excerpt illustrates a recurrent form of conversation in the empirical material, as children repeatedly suggested the grocery store and hunting as solutions to the question of how to access food. In addition, other recurring answers included growing and planting seeds, fishing, hunting, and sharing food, while less often occurring examples included simply cooking food, asking for or being a chef, using a cook book, visiting the food truck, breeding chickens or sheep, or moving to planet Earth. The children’s suggestions for what to grow ranged from traditional

Swedish crops such as potatoes, carrots, tomatoes, salad, radishes, strawberries, and raspberries to crops less common in Sweden such as corn, oranges, melons, bananas, and clementines. The examples are interesting from several perspectives. Firstly, the interactions exemplify how the performer and children jointly express and circulate arguments and understandings of the SDGs Zero Hunger and No Poverty. Secondly, they also highlight the children's sense-making processes as the associations and experiences they bring into the conversations give examples of what they grow or what vegetables and fruits they have at home, as well as stories about how to prepare—often barbecuing—meat. Thus, the examples show how children's associations and experiences informed a cognitively oriented conversation. However, as the next section shows, the theater play also invited the children to engage emotionally in the Agenda 2030 SDGs.

Engaging emotionally with SDG "Life on Land"

By including non-human characters, and additionally fictional non-humans such as the main character Sebastian the dragon and species like the pegasi, manatee, and unicorn—the latter common in fairy tales and magical worlds but less common on planet Earth—the performance seeks to engage the children in questions of biodiversity loss. We noted that the children cocreate the story of biological diversity of magical creatures without being explicitly invited to do so. One child adds dinosaurs to the list of species living on Terra, while another in response to Esmeralda's claim that *Large-Flying Dragons* only exist on Terra shouts "No!" A third exclaims that there are for sure *Large-Flying Dragons* elsewhere in the world. Even though it is the first time the children meet the magical world on Terra, they have opinions about which species have existed and currently live there. The examples can be seen to indicate the potential for fictional elements in narratives to incorporate sustainability transformations. We are told there are only 7 individuals of the dragon species *Large-Flying Dragon* left, and, as Sebastian cries and hides in Esmeralda's clothes, she asks the children rhetorically:

Esmeralda *What if you were the very last individual of your own species? But how lonely would you not feel then? /.../ And scared.*

Child *And you had no mother*

Child *Then you can get a little scared. (Group 4)*

In the excerpt, Esmeralda introduces the topic of threatened species by imagining the feelings of loneliness and fear the last individual of a species must feel. A child adds to this experience the absence of a mother, while yet another child reinforces the feeling of fear by concluding that without your mother you can be a little scared. Hence, the audience seems to interact with both the question and the emotional mood of the sequence. Similarly, children in another group in a compassionate manner reinforced the feeling of sadness by adding that one

would feel *really sad* (Child 1, Group 2) and *feeling left behind* (Child 2, Group 2). In addition, the researchers observed physical and bodily interactions with the feelings expressed in the conversations, as the field notes revealed sad faces in some and collapsed body language in others. Together, the interactions illustrate how the children employ experiences of emotional engagement to make sense of Sustainable Development Goal 15—Life on Land, and in particular target 15.5—to protect and prevent the extinction of threatened species.

It is worth noting that the performer's and children's interactions with SDG 15 on biodiversity on land do not only circulate around emotional engagement. The empirical material suggests that some children respond to Esmeralda's expression of feelings with a solution-oriented approach, seemingly without an emotional attachment, where the children seem to want to "fix" her sad feeling. For instance, the children provide suggestions on how to save a species, including giving them food (Group 5) and clean water (Group 4). From the analysis, it is hard to draw any firm conclusions as to what informs the emotional and cognitive responses, and if there are any specific narrative elements to it. Nevertheless, the results suggest that each child has their own cognitive and emotional framework that informs the type of engagement and, as such, also reveals ways of being and engaging with biodiversity loss.

Discussion

The theater play "Esmeralda and the Dragon" can serve as a starting point for furthering the discussions around narratives, storytelling, and creative and performing arts for public understanding of, and engagement in, sustainability transformations. In particular, this study feeds into 3 areas of research that will be addressed accordingly: the need for new stories, the transformative power of theater, and audience-targeted sustainability storytelling.

The need for new stories

Through a blend of the real, the magical and the mystical, the performance seeks common ground on the means and ends of a transformed world. As the story is based on the 17 global goals, it reflects the problem definitions of the remedies, strategies, tactics, and targets of Agenda 2030 (UN General Assembly, 2015). At the same time, the performance pays little attention to dystopian scenarios. Rather, like Agenda 2030, it focuses on positive transformative goals, that is, a society where people live in harmony with nature's resources. The communicative approach of Esmeralda and the Dragon thereby contrasts with the dominant approach in climate and sustainability communication and engagement. Communicating climate change and sustainability issues to various publics have often been based on seeing these issues as "threats" and "risks." This emergency rhetoric has been strongly criticized. For instance, in an article published in *Nature Climate Change*, Asayama et al. (2019) contest the rhetoric of fixed deadlines, claiming that such climate "deadlineism" undermines climate science. Following the same line of thought, Garrard argues that the "tipping point"

rhetoric and apocalyptic fictions convey increased urgency while such narratives leave little room to “comprehend and learn to dwell in this predicament” (Garrard, 2020, p. 4). It certainly addresses Moser’s (2020) reflections on world endings as a psychological and cultural struggle within ourselves over what and how to confront these endings, and how to be and act in the face of these accumulating apocalyptic narratives. The studies invoke the seminal article “Fear won’t do it” by O’Neill and Nicholson-Cole (2009) in which they concluded that fear may attract people’s attention but is not very effective in motivating genuine personal commitment.

Clearly, the dystopian narratives of climate change have so far not offered a fruitful platform for meaningful engagement with the cultures and values of people’s everyday lives, as suggested by Doyle (2012). The opposite, however, where stories of future-oriented optimism and utopian imaginations are at the core, is also argued to be problematic. Cassegård and Thörn assert that where communities are destroyed and populations displaced because of environmental destruction, this narrative “is neither nourished by a strong sense of hope, nor of a future disaster, but a sense that the catastrophe is already ongoing” (Cassegård and Thörn, 2018, p. 561). The story of Esmeralda and the Dragon does not really address one or the other scenario, but rather sets out to explore paths between or beyond polarized views on the need for utopian or dystopian narratives. As the analysis shows, performers and children can interact with possible solutions to no poverty and no hunger, while solutions are at other times left open. The narrative still keeps us in uncertainty. Let us mourn over endangered and threatened species, as in the case of the dragon Sebastian. Parts of the play can thereby be situated as a story between or beyond dystopian and utopian imaginations, as an example of postapocalyptic narrative (Cassegård and Thörn, 2018). Perhaps it is beyond the conventional sequencing of problem definitions to problem solutions in sustainability storytelling that the creative and performing arts have a significant role to play. These arts may offer a platform for dilemma-oriented stories with open endings (Kall et al., 2023) in which we can be whatever is personally meaningful for us (cf. Doyle, 2012; Priest, 2016; Boykoff, 2019; Kall and Asplund, 2022), while exploring the new stories that are undeniably needed for a more sustainable world.

The transformative power of the theater

This study highlights that engagement with Agenda 2030 and the SDGs is not merely a cognitive process but also involves affective dimensions. Through the magical world of dragons, pegan snakes, and other fictive species, the performance blends fiction and fantasy in the creation of new worlds and narratives. The analysis suggests that the non-human and fictional main character—Sebastian the Dragon—enabled emotional engagement among the children by generating feelings of sadness and loneliness in a seemingly compassionate manner. In the work *Making Stories*, Bruner (2003) argues that great fiction creates realities so compelling that they shape our experience not only of the worlds the fiction portrays but also that of the

real world. Whether that is the case in the narratives told through the story of Esmeralda and the Dragon, we cannot say, as we have not paid attention to whether the magical world of Sebastian and Esmeralda informs the children’s understandings of their worlds. Undoubtedly, the question of in what ways fiction can offer alternative worlds that put the actual one in a new light certainly should be investigated in the field of narratives and engagements for sustainability transformations.

Nevertheless, the theater play Esmeralda and the Dragon, along with the interactions between characters and audience, responds to the claim by Boykoff (2019) that creative climate and sustainability storytelling can be used to stir feelings and conjure emotional ways of knowing, thereby making the topic much more salient. Similarly, studies in the nexus between sustainability and performing arts speak to how emotions help the for public to understand and engage in sustainability storytelling. Performance arts have been found to engage emotions such as grief, humor, and empathy in stories of resilience (Brown et al., 2017). Additionally, several studies have explored how performances can nourish empathic relationships between, for example, children and trees (Aaltonen, 2015), a participating audience and local natural sites (Heras et al., 2016), a participating audience and people at risk (Brown et al., 2017), and humans and non-human species (Levine, 2020).

In parallel to studies on creative sustainability communication by the performing arts, the emerging literature on sustainability transformations points to how new meta-narratives could emerge, yielding visions and stories about the way the world does or should work (Veland et al., 2018; Leichenko and O’Brien, 2020; Linnér and Wibeck, 2020). Such new narratives of human and planetary well-being may offer a meaningful way forward, guiding us in terms of how to relate to ourselves, to one another, and to more-than human worlds (Rockström and Klum, 2015; Fenske and Norkunas, 2017; Waddock, 2020; Kall and Asplund, 2022).

Additionally, as suggested by Boykoff (2019) and as shown in this study, the communicative potential of the arts goes beyond using the arts to transmit scientifically preconceived messages to a target audience, to the use of artistic methods and practices in actively stimulating public sustainability engagement with Agenda 2030 and beyond. Moreover, via this study on how fictive and magical worlds nourish processes of recognition, compassion, and care, we suggest that creative and performing arts can realize transformative narratives.

What’s next? Public engagements in creative expressions of climate and sustainability transformations

As this study demonstrates, human perspectives are inevitably shaped in psychosocial spheres that connect people’s emotions, values, beliefs, identity, and lived experiences (e.g., Moser, 2010; Wibeck, 2014; Asplund, 2016; Leal Filho, 2019). The basic assumption in studies of public engagement is therefore that any sustainability communication endeavor must start by considering the

audience. While traditional public segmentation in climate and sustainability communication puts people in boxes based on nationality and sociodemographic data, for example, gender, age, class, and income (see, e.g., Eurobarometer, 2015, 2021) or partisan affiliation (Pew Research Center, 2022), scholars have explored dividing publics along axes of dismissive–alarmed (Leiserowitz et al., 2022) or by practice—such as in the business sector (Nerlich and Koteyko, 2010), farming sector (Asplund, 2014), or road management (Ryghaug and Solli, 2012). As the (sub)field of communicating the United SDGs is new, there is still rather little research on audience orientation in SDG communication and engagement. Although the SDGs are intended to make the world a better place and reach “everyone,” from a strategic perspective, Franson and Zeller (2018) conclude that the wide scope of trying to reach the entire population makes it difficult to create a clear message that resonates with diverse individuals. Consequently, they argue, communicators of the SDGs need to target particular publics of change-makers more precisely. Although these conclusions align with ideas on audience segmentation concerning sustainability and climate communication research (e.g., Wibeck, 2014; Leal Filho, 2019), the research has only begun on communicating the UN’s global goals so that different target groups can be meaningfully and inclusively engaged.

In addition, the narrative turn in climate and sustainability communication, where communicative initiatives move beyond the mere recitation of scientific facts to the creation of encompassing stories, means that we should reflect more searchingly on the audience, or story cocreators. For instance, we note that the study of sustainability and performing arts for public understanding and engagement in sustainability storytelling encompasses a diverse set of publics and practices, while discussions of the (participating) audiences of story-telling interventions are largely lacking. Brown and colleagues are an exception: in their comparative study of coastal resilience in Kenya and the United Kingdom, they conclude that the work, process, and performances were place-based and context-specific, determined by the events, issues, and concerns of the communities themselves. In other words, those researchers “could not take the play developed in Kenya and just remake it in Cornwall” (Brown et al, 2017, p. 8). From this, as well as from other studies that apply theater-based participatory tools for collective involvement (Brown et al., 2017; Onyenankeya and Salawu, 2018; Silva et al., 2018), we learn that artistic methods and processes can be used to tell a story that resonates with a particular intended public, their lives and their place. In this study, this can be seen in how the children frequently referred to things that they were familiar with in their specific environment, for example, shopping in the local grocery store, hunting, fishing, or growing crops as solutions to end hunger, or in the way the children bring in emotional experiences to make sense of biodiversity loss. To be meaningful, the communication needs to connect with the cultural referents and knowledge prevailing in the particular place and culture of the audience. Hence, rather than segmenting audiences along lines of

age, gender, and income or of publics’ levels of concern, this means that we should carefully and creatively consider audiences in studies on how performing arts can contribute to public engagement in narratives for sustainability transformations. The challenge is to create a performance that both speaks to these things while pushing the audience to expand their imagination beyond just their immediate situations.

In addition to the above reflections on performance arts and public segmentation more generally, there is the question of to what extent children and youth can constitute a particular public in creative expressions of climate and sustainability transformations. Children can be argued to differ from the general public, since the younger the audience, the less focus can be put on cognitive information processing, while creative drama and fantasy play may instead contribute more strongly to cognitive, social, and emotional engagement (e.g., Lillard et al., 2013; Berkhuizen, 2020; Doyle, 2020; Moradimokhles and Darvish, 2021). As one example, in the book *Performance for Resilience: Engaging Youth on Energy and Climate through Music, Movement, and Theatre*, Osnes (2017) explores methods for youth engagement in issues related to energy, climate, and resilience, offering performance materials for various levels of youth engagement. The performance experience *Shine* “rouses a sleeping giant—youth—to joyfully engage in authoring a brighter and more sustainable story for our future,” Osnes (2018) concludes. Through this analysis of performer and children’s interactions, this study confirms the potential of the creative and performing arts for children and youth engagements in narratives for sustainability transformations. While it provokes questions on whether fictional and magical worlds have a role to play for a younger audience, questions however remain as to what endeavors work where, with whom, when, and why.

Through blending these different literatures together, we hope to further the discussions on the role of various publics’ understandings of and engagements with Agenda 2030, more specifically and for creative expressions of transformative pathways beyond Agenda 2030 more generally. We see a fruitful way forward for scholars who wish to analyze and discuss audiences of creative arts for sustainability transformations.

Conclusions

This case study can be seen as an example of how we can tell a sustainability story about the UN SDGs rather than simply recite facts of people in poverty, land degradation, climatic changes, or any other facts related to development goals. It is similarly a case study of how such a story can be tailored to an intended audience. Based on theoretical reasoning and empirical knowledge, this article acknowledges that associative thinking and experience-based knowledge set boundaries for, but also allow for, dialogical meaning-making processes. In such processes, values and emotions, and in particular transformative qualities for climate and sustainability engagement, are at the core. The study draws the following conclusions:

- Through the structure of narrative, information about the SDGs can turn into specific, fascinating, and engaging stories resonant with target audiences.
- The findings similarly call for more authentically including of the creative and performing arts in further explorations of climate and sustainability communication for new, more compelling ways to engage diverse publics in narratives for sustainability transformations.
- With audiences' interpretive frameworks in mind, this study pinpoints the relevance of both cognitive and emotional associations for how people deal with their experiences of sustainability engagement.
- While bringing emotions into climate and sustainability engagement, the study findings encourage climate and sustainability engagement from a space of compassion, kindness, and altruism rather than fear, shame, and guilt.
- Based on the finding of the interplay between the audience and the fictional qualities of the play analyzed here, this study underscores how important it is that we continue to explore the ways that fantasy and fiction can foster meaningful conversation and engagement with various audiences in climate and sustainability transformations.

Data accessibility statement

The video recordings and transcripts have been stored digitally in accordance with the EU GDPR regulations, ethical guidelines of the Swedish Research Council for the Humanities and Social Sciences, and Linköping University's internal rules and regulations, during and after the project period. Due to privacy/ethical restrictions, participants of this study did not agree for the video recordings to be shared publicly. Transcripts that support the findings of this study are available from the corresponding author, upon reasonable request.

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Competing interests

The authors have declared that no competing interests exist.

Author contributions

Contributed to conception and design: TA.

Contributed to acquisition of data: TA, A-SK, OU.

Contributed to analysis and interpretation of data: TA, A-SK, OU.

Drafted and/or revised the article: TA.

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