CHAPTER 9

On the Origin of the Dragon: Evolving a Transdisciplinary Research Pedagogy

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Coal is power. Fossil fuel moguls are among the richest and most powerful members of a community, while coal turns people, machines, and the surrounding area black. Air quality is compromised when methane, carbon dioxide, and sulfur gases escape leaving behind dangerous and/or explosive conditions; the resource curse is apparent in these crises (Douglas & Walker, 2016; Freese, 2003). Animals are scared away from their natural habitats; plants are torn from the ground and shoved aside. Waterways are sullied, filled in, and forgotten. The original landscape is dramatically and inexorably altered—the human need for fuel and the greed of the industry moguls taking precedence over the beauty and functionality of the landscape. David Jardine (2009) engages this "living character of places" and "what is required of us if that living and our living there is to go on" (p. 157). Yet coal may have birthed a mythical animal so powerful

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and culturally beloved that it has existed for millennia (Poli & Stoneman, 2017). From destruction, beauty can emerge (Lotz-Sisitka & Burt, 2002). The dragon's genesis provides a grounding for conservation and preservation through a unique lens, fostering new discussions and attitudes in environmental studies pedagogy.

Introduction: Defining the Species

From this wider perspective, the Carboniferous layer (approximately 300 million years old) provides far more than fossil fuels. Throughout time, humans have created stories about their environment as a way of explaining natural phenomena. Greek and Roman mythology is full of these tales. Giving imagery to such occurrences as sunrise and the changing tides, these interpretive narratives provided a way to ensure information was accurately passed down to later generations. The story allows us to better understand our environment (Reinsborough, 2008). As knowledge grew, the story changed to better represent newer, more accurate information (Dundes, 1965). In this vein, people once believed that coal was a living entity, able to act on its environment independently (Freese, 2003). After all, fire emerged from it, foul-smelling odors were emitted, and its form and appearance were changeable. Was it so illogical to assign life to such a powerful thing?

If one looks at such beliefs as an early form of natural history, then the resultant stories become the beginning of scientific knowledge, forming a cultural schema from which people continue to draw (Bell & Russell, 1999; Jardine, 2009). Even modern quarrymen and miners with some understanding of fossilization refer to Carboniferous plant fossil specimen as snakes (Fig. 9.1). Coal seams worldwide are full of Carboniferous-era

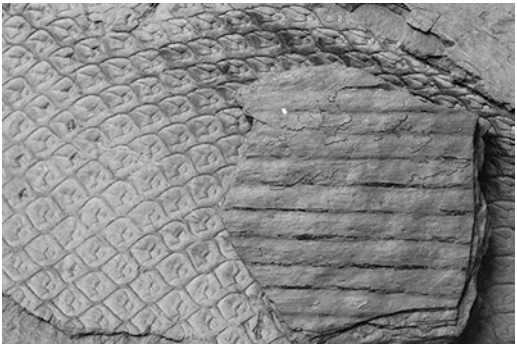

Fig. 9.1 Carboniferous plant fossil specimen

fossil plants due to the perfect fossilization conditions in the swampy areas in which these plants lived. Upon death, plants fell to the bottom of the swamps and layered into an anoxic (oxygen depleted) environment which preserved the patterns of leaves, stems, and roots in beautiful detail. Ferns, lycopods, and calamites (ancient horsetails) made up the numerous and predominant species easily seen in these strata. In modern times, scientists explore these ancient environments for clues about environmental change and ecological evolution.

One such study of Carboniferous plant fossils has connected scientists to these environments for a purpose that goes beyond study of the fossils or the environment, and extends to cultural beliefs as they are reflected in myth. These plant fossils provided fodder for investigation into dragon lore (Poli & Stoneman, 2017). This serendipitous inquiry began when a plant biologist (D. Poli) gave a talk about Appalachian plants and joked that the ancestors of tiny, modern lycopods, which used to be 100 feet tall, had a reptilian, dragon-like scale pattern and were found in heavily forested areas. A folklorist (L. Stoneman), hearing that description, inquired about a potential connection between these plants and dragon myth. What better environment for the likes of fairies and dragons? A research project was born.

The unlikely pair immediately began to work with students on researching and mapping the worldwide locations of Carboniferous fossil plants, specifically *Lepidodendron* and *Sigillaria*, and the locations of dragon folklore. When the fossil and folklore maps were compared, a correlation became obvious (Poli & Stoneman, 2017; Poli, Stoneman, Siburn, Bader, & Clarke, 2016). If the fossils are related to the folklore, then the dragon's symbolic power might also be linked to the pragmatic power of coal. Other researchers have felt the dragon's power as well, likening it to the research process in general and to environmental education research in particular (Lotz-Sisitka & Burt, 2002). Metaphorically, as coal is harvested from mines and quarries, the dragon dies—ground into gravel or hacked into chunks of fossil fuel. An uncannily similar description emerges from the tale of the Lambton Worm, a British dragon whose chopped, blackened body parts float down the Wear River, past a local coal mine (Poli & Stoneman, 2017; Sharpe, 1834).

Through a transdisciplinary research lens, the dragon, in all her powerful glory may be reborn. For us, that power serves to coalesce a disparate group of researchers in pursuit of the origins of dragon folklore throughout the world. This daunting task, one that can have no absolute answer, has pulled together multiple disciplines, as well as partners outside of academia, into a participatory action research project (Derry & Fischer, 2005;

Kemmis & McTaggart, 2000) that continues to evolve as new researchers join and new products emerge. The framework of the project is inherently synergistic rather than competitive, relying on diversity of thinking to reach "next step" kinds of answers rather than definitive resolutions.

These new inquiries, at first glance, often appear too disparate to connect to the original mission, but they are worked through and data continually reevaluated and analyzed through the lens of the original question. A business student's project on dragon product trade routes is an example of this (presented later). If paths lead to dead ends, then the researcher steps back and alters the process or abandons that particular path. An example of this occurred when a student examined the possibility of dragon evolution from the reptile lineage and found it an unviable scenario. This outcome is not considered a failure, only a path that is not yet open or one that needs to be approached from a different mindset. This allowance of, and even encouragement toward, "failure" is pedagogically important (Cannon & Edmondson, 2005; Sitkin, 1992). Our stance assumes that there are no finite answers to complex problems, but rather the continual posing and answering of questions that emerge organically throughout the project.

It is not enough today for researchers to pursue a question from only one disciplinary perspective (Scheff, 2013). Paths must intersect, converge, even implode and re-emerge to address the messy issues of the world (American Association for the Advancement of Science, 2011; Segalàs & Tejedor, 2016). Imagination is not the dichotomous enemy of the rational scientific thought needed for these inquiries. Creative leaps, fired by unrestricted imaginative thought are, in fact, what can drive innovation forward. This chapter addresses the power of using a transdisciplinary pedagogical and research methodology to answer complex and dynamic questions (Klein, 2013; Lloro-Bidart, 2015). Such a methodology incorporates and embraces exploration, collaboration, and invention within a construct that is also philosophically inclusive, bringing together the best of what a diverse mindset has to offer (Brown, Harris, & Russell, 2010).

In this chapter, we will illustrate the plant fossil-folklore project's deep connection to both natural history and lore even to the point of their inextricable melding. Given the unique nature of the project, explanations of particular folklore will be explored. Examples of student and faculty research processes as well as products will be described. The project's evolutionary nature will be used to structure the chapter to reinforce the depth of importance we attach to growth, dynamic change, and adaptability.

Connections: The Dragon's Power

Natural history recreates the Earth's story, facilitating the understanding of linear events within a specific time and place. Natural history allows us to grasp nature's power, while providing the tools to project future ecological and evolutionary changes (Fawcett, 2005). Human history is part of natural history; so, when man disconnects from nature and the stories inspired by it, we lose part of the Earth's story as well. Scholars must continue to realize that science is not superior to, or separate from, the human story (Bai, Elza, Kovacs, & Romanycia, 2010); any substantive inquiry must consider science and culture as a symbiotic life form (Rives-East & Lima, 2013; Ross, Hooten, & Cohen, 2013). Our original inquiry, connecting plant fossils to dragon lore, explores the supposition that humans observe the world around them and in making sense of it, create lore, the first natural history (Poli & Stoneman, 2017).

Dragon folklore is found throughout the world and dragons are integral parts of a number of cultures as symbols of power and protection. Often the dragon is gendered. If female, she may be a part of a culture's creation myth or represent the conflict between patriarchal and feminist ideals. Babylonian god Marduk slays another god, Tiamat, often described as a serpent-like dragon, creating the heavens and earth from her body. Tiamat is also responsible for spawning dragons in her death throes (King, 1902). A similar creation story recounts Egyptian god, Ra's conquest of serpent-like Apep, the god of Chaos (Pinch, 2004). If male, the dragon may be the herald of an army or the antagonist of a vanquishing hero. Sixth-century Saxon king, Harold, flies the white dragon on his battle flag, while Greek hero Jason rescues Andromeda from the sea serpent, often depicted with dragon-like appearance, to which her community has sacrificed her (Hamilton, 1942). Dragons have also populated the art world of diverse cultures for thousands of years, represented within the mythologies of the Greeks, Romans, Celts, and Ottomans (Kuehn, 2011).

In addition to the dragon as folklore character, products from the dragon (dragon's blood, teeth, and bones) appear in trade documents, including ships' logs, over hundreds of years (Dill, Stoneman, & Poli, in prep). The term "dragon" is used in the common (e.g. dragonfly and snapdragon) and scientific names (e.g. *Dracaena draco*) of a number of organisms. Often, the name is derived from the appearance similarities to dragons, but may also relate to the dragon's mythical powers as they were associated to a living organism. This pervasiveness and diversity of dragon

lore speaks to its deep cultural significance. A beast this important is useful as a means of influence.

Today, animals, whether real or mythical, elicit compassion, empathy, and curiosity (Goralnik, Nelson, Gosnell, & Leigh, 2016). Once engendered, this flame of interest can be fanned to create a passionate, engaged learning environment. The power of the dragon in our plant fossil-folklore project is quite literal, giving context and energy to all of the projects which branch from it. However, the power of the metaphorical dragon that stands as a symbol of this transdisciplinary research may be just as great, providing a multifaceted body from which many stakeholders can draw inspiration. Scholars, students, and non-students alike are intrigued for disparate reasons.

Just as the beast matures, a project grows, adapts, and mutates over time. Projects co-evolve and aid in one another's survival. Eventually, some relationships may deteriorate. Other projects move into domains that are uncomfortable for the researchers. Just as the beast must do to survive, successful projects learn to adapt to these dynamic situations. Individual research paths endure; others go extinct, but the species grows strongest when different disciplines bring their talents to the table within an open, transdisciplinary framework of inquiry (Stoneman, Poli, & Dooley, 2015). The remaining portion of this chapter will provide examples of these pedagogy/research occurrences.

Adaptation

Although the initial hypothesis that Carboniferous plant fossils were connected to the origins of dragon folklore was intentionally interdisciplinary, several individual sub-projects did not follow that interdisciplinary path (Poli & Stoneman, 2017). Some were led by students growing into the research process; some involved scholars working within their own fields, and/or within their avocations. Their adaptations did not take them outside their wheelhouse, but allowed them to adjust within it to grow their projects. Examples of these adaptations follow.

Two students who were charged with analyzing dragon folklore for location of story, plot details, and beast description became interested in moving in a more creative direction with their own story ideas (Morgan, 2010). One student penned a dragon-based, children's novella, incorporating geographic and lore data from the project (Denisch, 2016). The

other student wrote an adolescent novel, also using the dragon lore she had researched as her inspiration (Weltmann, 2016). These books, published through a natural history museum, were connected through the authors' sharing of particular characters and plotlines so that they might be enjoyed by readers over a wide age range. During creation, the writers worked individually, with one another, with the illustrators who were also a part of the larger project, and with other faculty outside the project. Both of the students took their experience to the next level upon graduation, pursuing writing as a career path and continuing to be involved with Dragon Research Collaborative (DRC) research and publications, presentations, fine art products, and exhibitions (Stoneman et al., 2015). One entered a Master's program in creative writing and returned to the DRC specifically to work on her book series as part of her graduate education.

In some instances, scholars and artists from outside the project became so interested in the research that they chose to use their talents to enhance the project. What resulted was a community inspired and transformed by the synergy (Reinsborough, 2008). For example, poet Melanie Almeder (2016), gave voice to the dragon, similar to Brock's (2008) suggestion, and to the inquiry surrounding it in "Fossil":

> 1. Fossil
>
> Is this the quiet
> century, this century
> of machinations,
> this pilfered, masticated earth,
> the kin and glen
> of coal, the human throng
> dug under, dug
> out—miners' lives
> guttered in the damp
> black of those corridors?
> In this din, this unquiet:
> stone after stone.
>
> 2. (for D.B. and L.)
>
> What reverie
> took the scientist,
> the teacher, to the stones,

to their black and grey
engravatures, their fired
coronations of leaf
and frond,

to read them
with a quiet,
unalarmed clarity,
and to see, in their constellations,
a kind of wonder and a kind
of hinge between things—

how the world
burned and the flames
were wings.

3. Lullaby

Of the stories since,
we might make a beast,
or two, a chain of mail, a bestiary,

a rosary, an incantation
about how the world,
it burns out into other

seedlings, into the talc
on our feet, into the sparks
our witches intone,

into wars, again,
until we cannot carry
all the charrings,

and, humaned, not of stone,
we go to sleep, the wick
of us breathing.

A general medievalist provided insight into the specific dragon lore of the French Tarasque. A paleontologist, specializing in giant snakes, veered off his path to explore connections between the Carboniferous plant scale patterns and those of known snakes (Hastings, in review). All provide a

new narrative for a once understood landscape, similar to Brock's (2008), Canadian landscape. Original visual art was created by artists who are accomplished scholars in other disciplines. One, a biologist, illustrated the novella cited earlier (Denisch, 2016), and also created paintings for a hybrid art-natural history museum exhibit (see below in Co-evolution). Another, a modern languages professor, contributed sculptures and giclée prints to the same exhibit. In addition, he designed a type font that embodied the palimpsest nature of the fossil-folklore inquiry, each character appearing to rest above an earlier text. This font was used in printing the books mentioned above and in other project areas as well.

These efforts, emerging directly from the plant fossil-folklore idea, took on individual significance, but remained within the discipline or the avocation of their creators. Such was not the case for all areas of the inquiry, as some research paths moved across discipline-specific boundaries and beyond the comfort level of some academic factions.

Mutation

Projects are expected to shift focus as new data are uncovered. Undergraduate students' interest is not always solidified as they continue to develop through their college life (Cueso, 2005). Therefore, student projects are often the most likely to mutate from the original ideas. One example of this shift is a freshman biology major, interested in veterinary medicine, who joined the group to explore reptile evolution. During her initial research, some of which originated from Latin American sources, she became equally interested in language, specifically Spanish. Immediately, she chose to shift her reptile project to explore how the Spanish language influenced reptile names and descriptions. By her sophomore year, she expanded on this language path, exploring the etymology of the word "dragon" across a variety of languages, eventually writing and presenting with her mentor on her findings (Clarke & Ogier, in review). Coming full circle, during her junior year, she took her love of language, Spanish culture, and reptiles, and began to explore the connections between fossils, reptiles, Quetzalcoatl, and Saint George (Kalinoski & Clarke, in review).

The changes represented in this student's work turned out to be a catalyst (a positive mutation, so to speak) for the co-evolution of other projects among the larger population; see Co-evolution below (Scholz, 2001). Several other students began to view their research from a wider lens, one that revealed how projects intersected in potentially helpful ways (Garrison

& Kanuka, 2004). Initially, the mutations were driven by this original student's energy and passion during research meetings as she asked divergent questions about her project as well as those of others. Her critical questions drove others to ponder how their inquiries might expand, encouraging them to ask deeper, and wider-ranging questions (Scholz, 2001). Some students tapped into the resultant synergy and formed a commensal relationship with another project that was more developed than their own, following their peers' examples for research process and analysis. Several of these relationships were formed as students realized their work would grow best in tandem with that of others.

Survival

As helpful as mutation can be to survival, what happens when a project goes down a rabbit hole and ends up outside the scholarly expertise of the team? How do you move a project forward when necessary skill sets are not obvious, or available to the group? Can a project be successful when experts play only a short-term role in the research? While a transdisciplinary track is powerful in solving large, multidimensional problems, it may actually be critical to the survival of a project endangered by the limited expertise or time of a sole researcher or burdened by what appear as failures in the research (Smith, 2015).

When investigating "messy" challenges, it is helpful to rely on a structure that can facilitate cohesion among the team members. Weekly research meetings keep the team on task and in touch with one another (Stoneman et al., 2015). For example, the students writing novels were able to converse with those doing illustrations, but were also in juxtaposition with those reviewing historical documents or extracting plant oils. Students reported gaining much insight from these interdisciplinary points of contact (Poli et al., 2016). Listening to group members share their successes and challenges from the week allows all to consider their project from many angles, not just their own points of view. Weeks into these discussion times, one student noted that they had begun to lose track of which person was working in or from a particular discipline—"I don't think about who is a scientist and who is a writer—we are all working on dragons!"

Transdisciplinary project teams may be constantly reminded that they are not experts in all of the content areas necessary to their research. Our answer to this challenge was to form think tanks, or in our parlance, supergroups, which functioned to bridge information gaps by utilizing the

group's collective knowledge and creating a supportive learning cohort (Stoneman et al., 2015). For optimal outcomes, egos and biases must be set aside so that members may work together as equals (Stoneman et al., 2015). Students often recruit their favorite professors; friends call on friends; members of the team search the wider community for the requisite expertise. As questions are resolved, new ones surface; relationships are created and evolve; and the project team cohort and their decisions remain organic. Given the camaraderie built throughout our project, when group members choose to leave active conversations, we continue to include them in all social community activities, such as group meals or excursions. We now have DRC alumni who return to help short term or continue with arms of the project that are in a new site location. Once Team Dragon, always Team Dragon!

Co-evolution, the Next Generation: Colonies

The DRC may be considered an original "colony," having formed in order to pursue a transdisciplinary question (Stoneman et al., 2015). A foundational pivot point in this research pedagogy comes with the formation of additional "colonies" that evolve from a new, individual idea. One example of this process revolves around another biology major's project. Rebecca Conter was studying paleobotany, had an interest in art, and was considering education within the context of a museum career. This multidimensional set of interests took the form of a single DRC project to develop an art-science-based learning tool that was engaging but provided flexibility of audience use. A plant evolution activity book was the outcome (Conter, Poli, & Stoneman, 2016).

Conter worked with biology/art major (Travis Lumpkin) who identified and artistically represented Carboniferous fossil species and their relation to paleoecology for his senior thesis. She used his fossil identification drawings as the basis for the educational material in her activity book. After consideration of particular learning processes, she began to produce the scientific content that fleshed out the other student's foundational work and made all of it applicable to a K-12 science education purpose (e.g. plant life cycles and modern examples of plant species). Once Conter's curricular content was set, she began to create a set of characters and a narrative that would allow the reader to access and interact with the content of the activity book. She created two dragons (a male and a female) as well as a group of multiethnic young museum staff. During character and

narrative development, Conter sought the advice of education specialists to ensure that her work aligned with state and federal learning standards and that her exercises were pedagogically sound. She was responsible for and was immersed in every multifaceted aspect of this process, often moving far afield of her actual college coursework. The colony of workers that her ideas spawned created a dynamic vortex as the complexity of the project grew. The publication of the book through a state museum has continued to pull others into the project as it has been translated into Spanish, Twi, French, and Chinese (Conter et al., 2016). The author and her mentors have been able to work with five K-12 public school science teachers in three states to test the efficacy of the book's activities in a classroom setting. At the time of this publication, the teachers are implementing the activity book with developmentally, economically, geographically, and ethnically diverse groups of students to address science content and skills. Feedback from teachers and students will be used in the creation of additional activity books in other content areas; the first of these is currently underway in social studies.

As the group and its products grew, others outside the team began to question how these seemingly disparate projects were connected. Given the natural history beginnings of the inquiry, the DRC co-leaders decided to create a museum exhibit as a way to blend the scholarly projects into one, cohesive story. After planning museum studies' lessons into weekly research meetings, often bringing in specialists to address particular issues or problems, students and scholars were tasked with developing their individual contributions into single museum panels. This task required continual check-ins with target completion dates to ensure the progress of such a diverse project. Simplifying a complex idea into a "tweet-sized" panel was difficult, and required the enhancement of the team's evaluation and synthesis skills. Wording was critical and consideration also needed to be given to the overall interplay of all the panels. The exhibit consumed the efforts of every member of the team as we worked together, changing task groups as the project goals necessitated. For example, while constructing art installations, artists would collaborate on the appearance and style or tone of their contributions. Then members moved into more content-driven groups, such as ethnobotany or mapping, to accomplish additional goals. Individual, unique interests were fully developed and pulled together into a crossover art-natural history exhibit. The overarching story, always clear to the team, was now revealed in a format that made the transdisciplinary question more obvious to the general public, In this

form, one is still being modified as the team discovers more about the plant fossil-folklore hypothesis, the exhibit has appeared in a local art gallery, a state natural history museum, and a regional fantasy festival. It continues to travel upon request.

Another colony example is a newer project, spun from the original exhibit and crafted by a sight-impaired young woman, a psychology major hoping to attend medical school. Her interests in the DRC stemmed from a desire to find a peer group and to do research that could have a real-world, positive impact. As she attended meetings regarding the finalization of the hybrid museum exhibit mentioned earlier in this chapter, she approached us and asked if she could use the Carboniferous plant fossils to develop a museum piece for sight-impaired visitors. The fossils are highly tactile and therefore accessible to such an audience, but the exhibit design group had not considered this idea since we were not intimately familiar with vision problems. Experts in the field of disabilities education, technology, and museum studies were called in to advise and after multiple conversations with a natural history museum director, it became clear that this new project's success would require the input of additional experts such as disabilities subspecialists who could help (Handa, Dairoku, & Toriyama, 2010; Hetherington, 2003). In pursuing her question, this student wrote a successful proposal and has created her own colony of scholars and other students to help guide the project to completion. A case study pilot was envisioned and a small exhibit entered development to be studied for efficacy within the intended population. After working through the project's initial phase, the student has even considered how her exhibit design could lead to a future career other than medicine.

Invasion

Just as with a natural organism's evolution, the dragon too has invaded locations within academe and the result has been dramatic and unexpected. Student and scholar involvement beyond the initial plant fossil-folklore inquiry has been high and the results prolific. But, invasion causes others to respond with heightened alertness and a sense of defensiveness, especially when invading populations grow large quickly. The project's rapid entry into new content areas resulted in questions about the validity of the project and the qualifications of the scholars. Crossing disciplinary boundaries, an integral part of transdisciplinary methodology, may be misunderstood by colleagues who prefer to work solely within their own discipline.

Pushback can come from all directions: students, faculty, and/or administration (Brewer, 1999). After all, disciplinary structures provide a familiar path to success; breaking through the boundaries of that structure can cause fear and anxiety. From a business perspective, those in charge of administering academe may see practical impediments to interdisciplinary work in the form of quandaries related to teaching unit allocations and tenure and promotion policies (Creamer & Lattuca, 2005; Lattuca, 2001; Thompson, Owen, Lindsay, Leonard, & Cronin, 2017).

Through these challenges, we continue to focus on student learning and the outcomes of the research. Students who embrace and succeed with challenging projects, colleagues who provide help that ranges beyond our areas of expertise, administrators who allow academic credit for interdisciplinary work, all serve to foster continuing inquiry. We are able to work with other scholars at moments of professional and personal growth. In doing so, we find that the ability to help each other move into new intellectual directions is powerful, even transformational. Our work has sparked a number of collegial efforts, several of which have little if anything to do with dragons or fossils. They are ideas born of the dragon, a think tank that this perspective engenders—a maker-space for ideas that are never wrong, merely unfinished.

Conclusion

Dark and scaly, hibernating and reserving power, coal and the dragon are useful to some, but the harbinger of death for others. The villagers wait in fear for fiery destruction, but the metaphorical beast addresses this seemingly insurmountable problem. Even in their fear, the folk love the dragon tale, a fact supported in modern times by the continued dragon representations in comic books, video games, movies, literature, pop art, festivals, and children's cartoons. While the dragon is fearsome, it also brings people together, creating conversations, moving us away from divisiveness, toward common ground (Marshall, 2015). What does this phenomenon say about our needs as a community? As a country? As a species?

Domesticating the dragon must be a communal effort; everyone's input is needed. Change happens when a critical mass in the community work toward a common goal. In a world so full of diverse viewpoints and physical environments, a common catalyst is necessary to focus the community's attention on the effort at hand. Pooling the resources and talents of multidisciplinary stakeholders means tapping into knowledge, skills,

and processes that are not limited by the perspective of one researcher or academic domain (Marshall, 2015; Polk, 2014). Art provides the visual. Music provides the soundtrack. Science provides the facts. Literature creates the story. Mathematics reveals the patterns. Business markets the knowledge. The sum is greater than its parts. Why limit the number and diversity of brains working on the same problem and in so doing, limit the data? To heal a fractured community or exploited land, all perspectives must be heard and values examined (Polk, 2014). Only then can new cultural mores be determined.

We can become the tough, scaly dragon, individually and collectively. What better skin in which to wrap yourself as you attack the evils of the world? What better ally when one needs a champion? The dragon's power provides a unique way to present modern environmental concerns to a larger audience. And if sustainability is the goal—what better symbol than the dragon, who has survived worldwide across eons? When apathy abounds in environmental crises, the dragon may provide the inspiration people need to engage and rally around a cause. The dragon's soul becomes our own. It is clear to us that the dragon has "the potential to reenchant the world" of environmental education (Morgan, 2010, p. 383). As we save the dragon, we may save our world.

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