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CULTURE IN SUSTAINABILITY

Towards a Transdisciplinary Approach

[SoPHI]

CULTURE IN SUSTAINABILITY
TOWARDS A TRANSDISCIPLINARY APPROACH

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ARTFUL EMPIRICISM AND IMPROVISING WITH THE UNFORESEEN

Two approaches in seeking understandings of nature through art

INTRODUCTION

Environmental education is commonly considered to be a process in which individuals gain awareness of their environment and acquire knowledge, skills, values, experiences, and also the determination, which should enable them to act to solve present and future environmental problems (UNEP-IETC, 2003). There may be room for affording certain aesthetic experiences through artistic practice, but usually these tend to remain somewhat marginal. Regarding the aspect of gaining awareness of our environs, the relatively new field of arts-based environmental education (AEE) turns the tables in a fundamental way. Here, art is not conceived of as an *added* quality, but rather as a point of departure. (cf. Inwood, 2013; Jokela, 1995; Mantere, 1992; York 2014, van Boeckel, 2007, 2013; York, 2014) Facilitators of AEE are specifically interested in how the learning about and connecting with the environment can be initiated, facilitated and deepened through artistic practice or experience. AEE brings art education and environmental education together in *one* undertaking.

Finnish art educator Meri-Helga Mantere can be said to have first defined AEE in the 1990s as a form of learning that aims to develop environmental understanding and responsibility “by becoming more receptive to sense perceptions and observations and by using artistic methods to express personal environmental experiences and thoughts” (Mantere, 1995a, p. 1). She holds that an artistically oriented environmental education is at its best when the artistic and creative perspective runs through the entire teaching project, from the stage of its planning to the evaluation of its results (Mantere, 1995b). Effectively, this implies that in the entire environmental education process the emphasis is on the manner of observing, experiencing and thinking that is customary to art. Tracing the development of AEE over the last twenty-five years, the following sources of inspiration can be identified: deep ecology, gestalt therapy, experimental learning theories, and environmental aesthetics (Pohjakallio, 2007).

I am an art educator, visual artist and researcher. On a regular basis, I facilitate group sessions that aim to heighten the awareness of participants to their natural environment and their own body through art. In practicing these activities I situate myself in the emerging field of AEE. In the past decade, I have explored what participants experienced when they were engaged in AEE activities that I

facilitated as a teacher, thereby employing phenomenologically grounded and arts-based autoethnographic research (van Boeckel, 2013). My presupposition thereby was that, through art, we could see and approach the earth afresh. Moreover, art can hold us in moments of aesthetic arrest, throw us out of kilter. It may catch us off-guard or hit us unexpectedly. This estrangement or defamiliarization is an important quality of art. It helps us to review and renew our understandings of everyday things and events which are so familiar to us that our perception of them has become routine. My conception of art education is that it, in contrast to other forms of education (including environmental education), is not predisposed to prepare the soil for a set of outcomes that are given on forehand. Art-making as process is grounded in curiosity. Typically, it starts from not-knowing and it may end up in ambiguity and paradox. Art assignments often provoke, they challenge the art-making learner, and the ensuing result often surprises both art teacher and student. The artistic process in AEE is first and foremost an *active* engagement with the natural environment. The participant is stirred to act upon the world around and in him, and the goal is to seek a dynamic open-ended immersion in an improvisational undertaking.

Or is it? Not all activities bringing together art, natural environment and education foreground this open-ended quality. There are approaches, developed in the course of time, which integrate an artistic element in the exploration of nature in more framed ways. One of these orientations is, what Seth Miller (2009, p. 8) aptly has termed, “artful empiricism”, an aesthetic method of observing that was first introduced by Johann Wolfgang von Goethe (1749-1832). As Miller explains, this is a variation of the original term of poet-naturalist Goethe who himself called this phenomenological approach a “delicate empiricism” (*zarte Empirie*). Such empiricism requires a participation that aesthetically places the observer within the world of the observed (Miller, 2009); this style of working “makes itself utterly identical with the object” (Goethe, 1995 p. 307)). Yet, Goethe never constructed his approach as a “method” per se, although he did describe his approach to the practice of science in parts, at different places. Other educators have later systematized his approach in various ways and these are often grouped as a developing tradition of practicing diverse forms of “Goethean science” (Davis, 2006b) or of “Goethean process” (Irwin, 2012). For Miller, Goethean phenomenology can thus be appreciated as being a methodology in its own right, for reason that it includes many different methods for its realization, and contains a world-view as its basis. This artful empiricism – Miller’s term that I borrow here to cover a wide array of approaches – is often associated with the anthroposophical tradition, inspired by the works of Rudolph Steiner. Here, Goethean practices are being employed to learn about the natural world, whereby the focus is to encourage participants to be observant, minimally interfering, and fully attentive to the world around them. The intention is to nourish, step by step, a state of attentive receptivity to and aesthetic perception of organisms and phenomena in the natural world. The Goethean method has not only been applied to the observation of plants (Bockemühl 1985; Colquhoun & Ewald, 1996), but also to human artefacts (Davis, 2006a), and even as a way to read and appraise landscapes (Brook, 1998).

In the following, I will discuss a four-stage process of artful empiricism which is central in many of the prevailing approaches.¹ The artistic element in this approach tends to be somewhat restrained, for the process is guided through four consecutive steps that need to be followed and completed one after the other, and bring the practitioner to synthesis of the performed explorations in previous steps.

From there, I will proceed and contrast this with art-based activities in which the emphasis is put on encouraging participants to actively respond by improvising to emergent properties that manifest themselves while partaking in an artistic group process. Here, participants are intently confronted with uncertainty and led into a liminal space of *not-knowing* (van Boeckel, 2013).

ARTFUL EMPIRICISM: FOUR STAGES OF TUNING IN WITH THE SENSES

Engaging in an artistic process that thematises natural phenomena tends to impact and enhance our aesthetic sensibility to the world. In this, art may help to amplify the receptivity of the senses. We experience the world, as it were, “with fresh eyes”, and thereby it can be of importance to temporarily “bracket” our pre-understandings, to be fully open to the phenomenon at hand.

This is not a new idea. In the mid-nineteenth century, Henri David Thoreau, inspired by Goethe, wrote in his *Journals* that he was continuously struggling to meet nature in its elementary directness, unmediated by conventions, categories, concepts, and scientific knowledge:

It is only when we forget all our learning that we begin to know. I do not get nearer by a hair's breadth to any natural object so long as I presume that I have an introduction to it from some learned man. To conceive of it with a total apprehension I must for the thousandth time approach it as something totally strange. If you would make acquaintance with the ferns you must forget your botany. You must get rid of what is commonly called knowledge of them. Not a single scientific term or distinction is the least to the purpose, for you would fain perceive something, and you must approach the object totally unprejudiced. You must be aware that no thing is what you have taken it to be. (Thoreau, 1859, quoted in Shepard, 1961)

Suspending preconceived notions and contemplating natural phenomena imaginatively in such a way may lead to new ways of seeing and thus allow for a poetic apprehension, beyond the limitations of literal language according to environmental philosopher and aesthetician Emily Brady. In some cases, she suggests, deep encounters with nature may even lead to the opening out of new metaphysical ideas (Brady, 2003). Brady makes it convincingly clear that the inventive capacity of imagination involves an array of valuable ways of engaging with nature, and through its revealing and amplifying capacity, it moves beyond what fantasy can muster.

Nevertheless, imagination has a bad reputation among certain environmental aestheticians, Brady contends. In their view, it is not primarily concerned with truth but rather with considering (often false) possibilities. Holmes Rolston, III (1998),

for example, holds that aesthetic appreciation of nature must be guided by knowledge that is provided by science. In their view, as Brady summarizes, imagination may have some positive role but it should be constrained by the necessary condition of scientific knowledge. As a case in point she quotes environmental aesthetician Marcia Muelder Eaton who states that a concept like imagining “make[s] no sense unless one knows what the object is that one is talking about, something (in fact, as much as possible) about the object, and something (in fact, as much as possible) about the context in which the object is found” (Eaton, quoted in Brady, 2003, p. 162).

For Goethe, however, the faculty of artistic creation did not differ essentially from the faculty of the cognitive perception of nature. For him, the artist’s style “is based on the deepest foundations of knowledge, on the essence of things in so far as it is granted us to cognise this essence in visible, tangible forms” (Goethe, cited in Steiner, 1928). Goethe was not anti-science nor would he advocate shelving one’s botany. Even the artist who would desire to represent flowers and fruits will only

become the greater and more thorough if, in addition to his talent, he is a well-informed botanist: if from the root up he knows the influence of the different parts on the growth and prosperity of the plant, knows their various functions and their effects upon one another, and if he comprehends and reflects upon the successive evolution of leaves, flowers, fertilisation, fruit and the new germ. (Goethe, cited in Bielschowsky, 1969, pp. 99-100)

In the course of his life, Goethe became more and more certain that the view that nature and art were but manifestations of one and the same reality was correct. As Bielschowsky states, “Goethe’s philosophy of art ... is based on the laws which he read in the open book of nature. The great principles underlying the realm of nature, the conception of unity and the idea of evolution, when applied to art, become the typical in art...” (Bielschowsky, 1969, 100). Thus art, for Goethe, reproduces whatever it may have received from nature; for art is not an imitator of nature, but her “worthiest interpreter”, to which he added that an irresistible longing for art is felt by all to whom nature begins to disclose her open secret.

In my view, Goethe-inspired artful empiricism can be acknowledged as a form of AEE that is centred on aesthetic sensibility, encouraging participants to use their imagination and intuition in their perception and in coming to understanding of natural organisms and phenomena. Its participants are encouraged to perceive nature afresh – “totally unprejudiced”, as Thoreau put it – and in this effort, artistic process is an important means. Below I will now dwell at some length on the four stages that can be distinguished in the Goethean process.

The first phase entails an “exact sense perception”² of the world, thereby letting the “facts speak for themselves”. It comprises an empirical study of the phenomena, collecting detailed observations of the “surface” of things. As Daniel Wahl (2005) explains, participants “stop seeing a rose and encounter the phenomenon, formally called rose, *as it is*” (p. 62, emphasis in original). What is striking to me here is the essentialist language, which makes this approach

vulnerable to criticism of being dogmatic (or at least of having missed out on the postmodernist turn in philosophy). Drawing is regarded as a suitable method to enter this process of perception through the senses, as it alerts practitioners to the details of pattern. They are encouraged to pay careful attention to the phenomenon that is being studied through a process of active looking, in which they should ideally not attempt to reduce the experience to quantities or explanations. Henri Bortoft describes this as “redeployment of attention into sense perception and away from the verbal-intellectual mind” (Bortoft, cited in Harding, 2006, p. 34). By noticing the specific details of the things, Stephan Harding (2006) adds, one’s preconceived notions and habitual responses are suspended. The sensorial qualities of the phenomenon are thus enlivened and more readily perceived. As Bortoft puts it, this allows the phenomenon “to coin itself into thought” (ibid.), inducing itself in the thinking mind as an idea. This *intuitive perception* is done spontaneously: through active looking one can encounter the phenomenon, without preconceptions, in all of its parts.

The second phase, as one proceeds, is “exact sensorial imagination” (Goethe’s term was *exakte sinnliche Phantasie*). It sets the empirical observations in motion; participants are invited to close their eyes and to use their imagination in bringing together all of the details that they so carefully observed in the previous stage. In this way, the participants can for example try to visualize the plant sprouting from seed to the moment it eventually dies. The idea is that participants, in this stage, no longer see the thing in an objective frozen present but rather begin to see, in the mind’s eye, the flowing processes of movement and transition (Brook, 1998).

This then prepares participants for the next stage, which is termed “seeing in beholding”: here participants are given “a revelation of the inner being of the plant”. At this point they have in fact returned to, as Margaret Colquhoun (2014) calls it, a state of “intuitive precognition”, and “commune with the unbroken wholeness of the phenomenon” (Harding, 2006, p. 35). The thing is allowed to express itself through the observer. According to Isis Brook (1998), such experiences are often best expressed in (what she calls) emotional language, i.e. through poetry, painting, or other art forms.

Interestingly, there is a sort of change of positions in this phase: the phenomenon itself is now said to take the active role, and the observer, with no preconceived notions, encounters it with an open mind. In this state of receptive attentiveness the phenomenon is believed to express its own gesture: “When this happens, the experience of the phenomenon revealing itself in one’s own consciousness feels very much like a sudden flash of insight, much more like something received than something created” (Wahl, 2005, p. 64). In artful empiricism’s approach to nature, the organizing idea in cognition thus comes from the phenomenon *itself*, instead of from the self-assertive thinking of the investigating practitioner. In short, it is “not imposed *on* nature but received *from* nature” (Bortoft, 1996, p. 240).

The final stage follows directly after this and is called “being one with the object”. Here, the aim is that participants achieve a more comprehensive conceptualization of the phenomenon. At this stage of perception, the inner content

of the thing is to be combined with its outer appearance or form, and this, according to proponents of the practice of the Goethean method, can only be achieved through the process of thinking. Ideally, at this point, participants start to understand how the phenomenon at hand relates to other forms and processes, in short, to its wider environment. These relationships define the range of possibilities the phenomenon has to transform and the ways it can do so (Wahl, 2005).

Each stage builds on the experiences the observer had in previous stages; in this sense the Goethean method is unidirectional and purposive. Our intuition, Harding (2006) explains, can suddenly present our consciousness with a new way of seeing – “often after the thinking mind has activated the unconscious through a concentrated focusing of attention on a phenomenon or on a given problem” (p. 34). As mentioned above, on a scale encompassing more than the study of individual plant species, one can even think of carrying out a Goethean exploration of a whole landscape. On basis of a close reading of Goethe’s scientific work, Isis Brook has attempted to articulate a practical application of Goethean methods of observation in the context of what she calls a “sensitive” approach to landscape analysis. (Brook, 1998, p. 51).

A typical example of the application of the Goethean process in an educational setting can be found in *New Eyes for Plants* by Margaret Colquhoun and Axel Ewald (1996). They encourage practitioners to use artistic methods as a way of knowing. Next to immersing themselves in keen observation, they should engage their imaginative capacity. Their workbook for observing and drawing plants, the authors say, is an invitation to practice science as an art. They aim to engender in their readers “a sense of wonder”, and thereby to sow seeds for the development of “new eyes” or ‘organs of perception’” (p. 177). Thus, observers become participants. Colquhoun and Ewald provide a host of exercises allowing their readers to acquaint themselves with the transformations that plants undergo in their growth process, such as drawing each part meticulously, thereby in a way “forgetting” the motive. In the attentive state of mind of looking carefully at a plant and drawing its features, practitioners may start to feel that it is the plant *itself* which is showing them how to “tune into” and “swim with” (p. 32) the rapidly unfolding myriad of forms, each being a transformation of the one before. In order to enter into this realm of plant development, the authors suggest, participants engaging in this way of art-making have to “dream a little” (p. 169). “The exercise of drawing exactly what you see allows one’s prejudices of how things ‘should’ look to fall away and we experience a ‘cleansing’ in our very process of seeing” (p. 32).

IMPROVISING WITH THE UNFORESEEN

Rather than seeking an identification with nature, making ourselves “utterly identical with the object”, with the aim of gaining insights into the fundamental nature of the phenomenon, there is another view which, in contrast, *foregrounds* the differences between us and nature, and also here art can play a meaningful role. Sigridur Thorgeirsdottir (2009) speaks of encounters with the *otherness* of nature

that can be facilitated through art. To her, art represents a form of gaining and creating knowledge about the natural environment and our situation as part of it. Art, she says, can work against the idea that nature is only a product of visual or other semiotic representations of it by pointing to aspects that show that it is *more* than that. This otherness has to do with the unpredictability of nature, its emergent character.

This brings me to another view of looking at artistic process in the context of efforts to connect to nature. I call this “improvising with the unforeseen”. When participants are encouraged to explore their relationships with their natural environment, the concern in improvising through art-making, I would suggest, is not primarily to do fully justice to the phenomena. Attention, rather, is first and foremost preoccupied with the emanations that stem *in and from* the art-making process itself. Instead of referring to art-making as exclusively coming forth from talent, skill or mastery, I conceive of art here as a human activity that consists of deliberately arranging items in a way that influences and affects one or more of the senses, emotions, and intellect. Art-making, thus understood, can catch both artist and AEE-participant by surprise; as if it, as it were, came “from behind”. Expressive arts therapist Shaun McNiff suggests that our artworks, once finished, may become a certain kind of angels or messengers – the word angel used here in a metaphorical sense. In his *Art Heals*, McNiff (2004) describes how he encourages participants in the art exercises that he facilitates to enter in a conversing mode with the paintings they make. He contends that images generate stories, and that one can enter into an “imaginal dialogue” with them. Though his focus as an expressive arts therapist is primarily on imagination as a healing instrument, I suggest the metaphor of an angel “talking back”, as it were, may be applied also in the field of AEE. The great advantage of the angel metaphor to McNiff is that it personifies the image and brings it to life in a way that opens up many new possibilities for interaction: “All of these creative methods require one to establish an emphatic connection with the expressions of an image” (McNiff, 2004, p. 101). This mode of artistic process is a way of interpreting through an ongoing active imagination, thus accessing the imaginative potential of the artwork we have just made.

The idea that the purpose of art was to make the “familiar, unfamiliar” was articulated first by Russian critic Viktor Shklovsky in 1917: “[A]rt exists that one may recover the sensation of life”, he wrote, “it exists to make one feel things”. Its true purpose “is to impart the sensation of things as they are perceived and not as they are known”. The technique that art employs to achieve this is “to make objects ‘unfamiliar,’ to make forms difficult, to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged” (Shklovsky, 1917/1965, p. 12.). Without art, Shklovsky wrote in his classic text “The Resurrection of the Word” (1914), “[t]he thing rushes past us, prepacked as it were: we know that it is there by the space it takes up, but we see only its surface”. Art exists, he held, “so that a sense of life may be restored and things may be felt, or, in his intriguing metaphor, “that stones may be made stony” (Shklovsky, cited in O’Toole, 2001, p. 165).

Such defamiliarization, which is also an aim in artful empiricism, however, may also provoke a moment of transformation, after which the world as it was before is not quite the same anymore. In his paper *Authenticity Revisited*, Bruce Baugh (1988) argues that the distinctive function of works of art is to reorient the experience of the perceiving subject. Peculiarly, the artwork *itself* determines the organization of this experience: “the world of the work of art ... is none other than that of the perceiving subject as transformed by the work. An artwork makes this world *its own* according to the depth and singularity of the transformation it effects” (Baugh, 1988, p. 479.). A work of art, says Baugh, is something “that exists *in order to be perceived*” (ibid, p. 480, emphasis in original). This aspect of perceivability, to me, may also mean that an artwork may carry latent properties, which only manifest themselves to the extent that we as its percipient (and I would say, the same holds for the creator of the artwork) are receptive to them. Art, through its unique power to transform experience, reveals new possibilities of existence to us.

We need a degree of defamiliarization to be open to the emanations that spring from the evolving or finished artwork that is in front of us. By allowing the artwork to organize our experience, it is given “a power over us sufficient to alter our experience of the world from its very foundations” (Baugh, 1988, p. 481). And it is through this that it achieves its epiphany.

This moment of transformation, however, will always be transitory, Baugh asserts. It is momentary and its duration coincides with that of the manifestation of the work. Others have called such moments *peak* (Maslow, 1964) or *flow* (Csikszentmihalyi, 1990) experiences. Crucial for Baugh is that an authentic work of art must have an end *that cannot be understood in terms of our own*. It resists our every-day understanding of the world.

Baugh’s reflections on how the artwork “makes the world its own”, which I have summarized here, seem to implicitly presuppose that there is an intentionality, a wilfulness, on the part of the percipient of an artwork. The moment of transformation that the artwork brings about, the moment of epiphany it achieves, seems to be a consciously sought affair: we set out to undergo a momentary revelation when we engage in meeting the artwork.

This all may seem like a far cry from art-making and art perception as means to observe and understand nature. But by extrapolating Baugh’s reasoning, one could say that arts-based experiences in and of the natural world may redefine our apprehension of nature and the manifestations of life we find there.

Additionally, Baugh focuses his attention on the percipient of an artwork, not on the process of *making* art – by oneself in solitude, or as part of a group of participants. Yet I believe his understanding of how the aesthetic object transforms the experience of percipients also pertains to the impact of art-making as *process*. For, as we saw, McNiff calls our attention to how such transformation is brought about in and through the activity of art-making as it takes place in dialogue with the nascent artwork that is being created. An artistic process may evoke and engender emergent properties. I borrow this concept here from physics, it pertains to certain qualities that are not directly traceable and reducible to a system’s

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components, but rather to how those components interact (Laughlin, 2005). The idea of “emergence” can be understood as the arising and manifestation of a “radical novelty” that was previously not observed in a system (Goldstein, 1999). In the context here, it refers to latent properties that lay dormant in the becoming artwork as it were, and only manifest themselves in and through the process of its making.

Below I will provide an example of such emergence from of my own practice of AEE: the group-wise sculpting of clay figures of the human body.

MAKING A “LITTLE-ME” OF CLAY

In a “little-me” making workshop participants sculpt a miniature version of their own body, a so-called “little-me”, with their eyes closed.³ A guided little-me making activity lasts about an hour, in which I lead participants step by step. In the process, I try to focus their full attention on each of their body parts, beginning with their feet and ending with their head. I ask them to give expression to what they perceive in their body, and at that place – in and through the clay.

This activity, using a material that comes directly from the earth and with which humans have worked and been in close contact for several millennia, tends to have a strong impact on the participants. The underlying thought is that they will learn in a surprising new way about their own embodied existence in its continuous exchange with the environment. It challenges the notion that nature is somewhere *out there*, separate from ourselves as corporeal beings. The circumstance that participants work the clay with their eyes closed tends to have a deeply defamiliarizing effect. They have to find their way forward without being able to rely on the controlling gaze; they have no reference whether or not they are depicting the growing clay sculpture realistically or if it is aesthetically pleasing to the eye. Just as important is that the controlling eyes of *others* is not felt – yet the activity is conducted together in a group. As the facilitator, I set the parameters for making this encounter come about.

I have facilitated little-me making sessions several times now over the years.. Occasionally I try to bring in a new element of which the outcome is unknown to me. One of these “innovations” was to introduce the drinking of a cup of water, again with the eyes closed, at the moment in time where the neck and throat are being moulded from clay. One participant confided to me afterwards that perceived the drinking of the water as a “reverential gesture”, a threshold experience before commencing with the formation of the clay head. The swallowing of the water apparently had a latent meaning that I, as the person who introduced this new element, had never thought of myself, and which manifested itself through the art-making process.

RECEPTIVE UNDERGOING VERSUS ACTIVELY ACTING UPON

Every living creature necessarily needs to be both receptive to its environment and bring about a spontaneous creativity in adjusting itself. David Abram (1996) points out that this is the core of perception: the open, dynamic blend of receptivity and creativity by which every animate organism necessarily orients itself to the world. In John Dewey's theory of learning, the aspect of "experience" takes a central role. Also for him, all experience involves a swaying between doing and undergoing (Dewey, 1938). As Andrea English explains this central claim that permeates Dewey's work, undergoing describes the receptive side of the human being. "We *receive* something from the world when it resists our attempts at interaction: we *undergo* or *suffer* the world" (English, 2013, p. 66). Undergoing the world through taking in the new, "we learn that something or someone in the world has defied our expectations.... [W]e become open to the possibility of reconsidering our previous knowledge and actions...." (Ibid.). This experience of discontinuity, of being interrupted, is, in the words of English, the *countering* force of this encounter with the world. Dewey believed that only through this undergoing we are able to take in what preceded. By undergoing the experience of otherness, learning is incited. Dewey had observed that in any meaningful experience there is an on-going oscillation between "acting upon" and "receptive undergoing". Every experience, according to Dewey, is the result of interaction between a live creature and some aspect of the world in which he lives. Dewey explained this further as follows:

A man does something; he lifts, let us say, a stone. In consequence he undergoes, suffers, something: the weight, strain, texture of the surface of the thing lifted. The properties thus undergone determine further doing. The stone is too heavy or too angular, not solid enough; or else the properties undergone show it is fit for the use for which it is intended. The process continues until a mutual adaptation of the self and the object emerges and that particular experience comes to a close. What is true of this simple instance is true, as to form, of every experience. (Dewey, 1934/1987, pp. 43-44)

Irrespective of whether artful empiricism or "improvising with the unforeseen" is foregrounded, participants in AEE move back and forth in time between two states of being: from receptive surrendering to the process to creative acting upon the world. In their handling, moulding, and changing of objects, they inevitably engage with and interfere in their environment, they shift from following their willed intentions to having no other recourse than to grope their way forward,

There are certain actions in life, which, while we perform them, thoroughly shake our pre-understanding of the world, says Arthur Weymouth:

Such actions attempt to drive a knife through the sheen of the everyday and prise it open, so for just a moment new spaces are revealed, and new forms of thinking can emerge. In this liminal space, at the threshold between the commonplace structures of the everyday, the whole paradigm by which we set the clocks of our lives is called into question." Such a moment, he

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adds, is “the birthplace of art, of revolution, of religion, of genius.
(Weymouth, 2009, p. 37)

Undergoing a transformative experience brings along that one is also cast in a liminal zone where one can no longer fully rely on methods that have proved their value and reliability through time. In effect, it implies a radical vulnerability to whatever the receptive undergoing may bring about. It involves an element of suffering in the sense that one is acted upon by the world, often against one’s own will. David Wong points out that relinquishing control and thus being receptive to outside influence is an essential quality of compelling, deeply engaging experiences. To underscore this point, he traces the arcane definition of the word “passion”. In Latin, *patis* means suffering: “Both passion and suffering mean to experience intensely while being acted upon by the world” (Wong, 2007, p. 202). There is also an element of inevitability here, as comes across in the expression, “no pain, no gain”. Compelling experiences are constituted by more than just our intentional actions. Only by fully undergoing the experience, by surrendering to this suffering, do we truly learn:

Perception is an act of the going-out of energy in order to receive, not a withholding of energy. To steep ourselves in a subject-matter we have first to plunge into it. When we are only passive to a scene, it overwhelms us and, for lack of answering activity, we do not perceive that which bears us down. We must summon energy and pitch it at a responsive key in order to *take in*. (Dewey, 1934/2005, p. 55)

CONCLUSION

One may wonder what understandings of nature these two approaches afford. In both an effort is made to break away from a mode of nature interpretation that is based on knowledge transfer. Instead, each of the two allows for art-making to impact the learner in his or her coming to understanding. In the Goethean approach, a desired outcome is that the participant is transformed through the practice. Ideally, he or she develops new “organs of perception” through it. In “improvisation with the unforeseen” such a transformation may go further, as it doesn’t lend itself readily to the kind of integration in thinking (stage four in the Goethean process) that happens in artful empiricism. From the liminal space in which participants are thrown through their involvement in the art-making activity, an effort needs to be made to make a bridge that allows for integrating the new understandings in the pre-knowledge.

The point of departure in AEE activities tends to be broad, loose and comprehensive: in the forefront are the awakening of awareness, perception, and receptivity. Often they start out by emphasizing (and further encouraging) a state of sensorial openness to the primary aspect of *being* a body, *being* in nature. From there is a progressive fine-tuning and narrowing down to a second level of attentiveness to a more specific and deepened focus on relationships with one’s

environs, emphasizing respectively *connecting with* nature. This is a step towards engaging in a reciprocal relationship to one's natural environment: of concentrating the attention and reacting upon, being influenced by and answering to the world. Attaining a third level constitutes a further narrowing into a more specific and personal *learning about* nature: the attentive awareness leads to the idea of having grasped some of the underlying relationships, and having acquired possible new understandings of what Bateson (1980) aptly called "the pattern which connects".

Ideally, participants are able to retain (and bring to bear) all the awareness and sensitivity that is aroused within the prior, more-encompassing gestalts when their perceptive faculties subsequently tune in to particulars (the bold back arrow in figure 2).

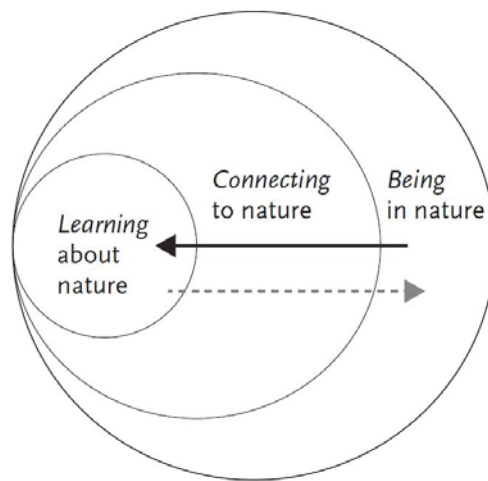


Figure 1.

When they, at the level of the smallest gestalt, pay attention to natural phenomena in a more contracted and focused mode, they thereby employ what I speculatively identify as a very primary and tentative form of apprehension. This kind of learning, that seems to take place in the AEE activities that I facilitate, I tentatively call "rudimentary cognition" (van Boeckel, 2013). The term refers to a crude, basic or minimal ignition of mental processes, to an elementary and nascent form of cognition that comes forth from and in an initial affective and embodied reaction to being immersed in an artistic process, but may move on to more intentional and conscious cognitive activity in processing this information and applying the acquired knowledge in other contexts.⁴

New forms of understanding that evolve in the most focused mode – raw "chunks" or emanating patterns of rudimentary cognition – may have an impact on ways in which the participant subsequently perceives his or her connection to, and being, in nature (the grey dashed arrow in figure 1). (In reality, I believe the

movement in two opposing directions – the narrowing or expanding of focus – can happen simultaneously and it may in fact be impossible to neatly disentangle them from one another.)

Paradoxically, intensified attentiveness through partaking in AEE activities can in some cases also bring about a *diminished* sense of felt connection to the natural world. At some point during the activity, for example, this can happen when elements of the living world are suddenly identified by their proper scientific names. The label that the name constitutes can unwontedly pop up in the individual participant's *mind's eye* or be pointed out by one of the other participants. Their mere utterance, however, could be a kind of "context marker",⁵ that starts to "overrule" more fuzzy understandings stemming from intuitional perception. Then the hazy rudimentary cognitions may have to yield to more established, and therefore likely more reassuring, rational explanations.

At the other extreme, there might also be cases when we go astray exactly *because* something does impress us very deeply, like for example when we for the first time become aware and are in awe of the intricacy of a spider's web. At such instances, we are, quite literally, *moved*. Such an experience may trigger a reaction that is emotional (from the Latin *emovere*, to move out), and then our perception usually isn't very clear. Overwhelmed, we no longer perceive very keenly and sensitively – for this seems to require a certain degree of detachment.

In artful empiricism, with its aim to foster a receptive and aesthetic awareness of the natural world, the imaginative part seems to be mostly delimited to sensory imagination in service of an unprejudiced way of looking. These kinds of activities undoubtedly offer new understandings of the natural world. But in my view they mostly lack the quality of improvisation. One may add that conceptualisations of "art" are limited to notions that stem from Goethe's time and which have a rather Romantic ring to them, such as the idea that art is "nature's worthiest interpreter". Contemporary understandings of art are of course much more comprehensive, complex and ambiguous.

On the other hand, participants who engage in art-making in which the emphasis is more on a dynamic *acting upon* the world (with the aim or effect of evoking emergent properties, such as in the example of the little-me making), may miss out on certain phenomena that they simply overlook, as they are more preoccupied with meaning-making in its own right. The first orientation is an attempt at meeting of nature in an almost intuitional if not naïve sense, at least initially unclouded by reason or prior knowledge. In the second orientation there is a shift from the object of the participants' creative engagements – the environment with which they engage – to the artistic process itself and the objectified shapes that stem from it: the angels that talk back, and that start to surprise their creators during and through their unfolding.

Perhaps the true challenge for arts-based environmental education is to explore how our heightened sensitivity to nature through combining art and environmental education can be expanded by allowing our artistic creations to "talk back", and conversely, how our defamiliarization through the encounter of emergent properties can be grounded and embedded in a receptive contemplation, a delicate

empiricism in relation to the natural world, thus enriching our understanding in unexpected ways.

If we recall the participant in the little-me making session who perceived the drinking of the water with his eyes closed as a threshold moment before commencing the final part of the session, which was the moulding a miniature head in clay, we may assume that his understanding of his head, his bodily processes and the relationship of his body to the a wider context was thoroughly impacted. Most likely this was done in ways that would not come about by “merely” contemplating the phenomenon intentionally in a Goethean sense.

The relative differences in the point of gravity in the relation between undergoing and doing in artful empiricism and “improvising with the unforeseen” in AEE may be expressive of the weight that is lent in time to the each of the poles of receptive undergoing and active doing. As we saw, for Dewey these are actually two parts of *one* experience of art. More-over, he argued that transformative experiences *require* both (Dewey, 1934). In Wong’s explanation, an aesthetic experience, for Dewey, is a transactional phenomenon where both the person and the world are *mutually* transformed:

We do something, we undergo its consequences, we do something in response, we undergo again. And so on. The experience becomes educative as we grasp the relationship between doing and undergoing. The experience is transformative as we have new thoughts, feelings, and action, and also as the world reveals itself and acts upon us in new ways. (Wong, 2007, p. 203)

In fact, Dewey held that although undergoing may be receptive, it has no existence separate from active doing. Both intentional and spontaneous activity are part of his aesthetic perspective on learning. But that does not preclude that when we are in the grip of a compelling experience, we relate to it for a large part without exercising conscious thought and effort. Its meaning, Dewey held, is immediate and immanent, and its quality may be perceived as “a gift of the gods”. As Philip Jackson (1998) mentions in his *John Dewey and the Lessons of Art*, “The added meaning is not sought. It happens effortlessly and without notice – like a bolt from the blue.”

In my view, the skill of oscillating from receptive undergoing to acting upon in artistic processes in relation to nature could be seen as expressive of an ability to engage in what Gregory Bateson called the principle of “double description”. With this he meant that two or more information sources come together to give information of a sort different from what was in either source separately (Bateson, 1980). Double description looks past superficial similarities and differences to consider the underlying processes. For Bateson, the essence of *aesthetic* was being responsive to “the pattern, which connects”. “The richest knowledge of the tree”, he would argue, “includes *both* myth and botany” ((Bateson, cited in G. Bateson & M.C. Bateson, 1987, p. 200).

Or, as I am tempted to paraphrase this insight in light of the explorations presented in this article: the richest understandings of nature comprise both an

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artful empiricism and a radical openness to emanations that come forth in and through an artful process that actively “invites the unforeseen”.

NOTES

1. The development of this four-stage process is attributed to Johannes Bockemühl, former director of the Natural Science Section of the Goetheanum in Dornach, Switzerland, the international centre of the Anthroposophical Society (Davis, 2006).
2. The names of the four stages in the Goethean process as they are described in the following are derived from Irwin (2012), “Audit of Goethean Process: As Outlined by Leading Experts in the Field.”
3. I learned to do this – myself being a participant – from sculptor Antony Gormley in 2006. Gormley had come to Schumacher College in Dartington, England, to co-teach a course on art and ecology.
4. James Elkins pointed at something similar when he observed that “emptying of the brain through painting creates a vacuum that attracts real spontaneous knowledge” (Elkins, cited in Lipsett, 2009, p. 44).
5. Bateson found that organisms tend to respond differently to the same signal if it is presented to them in a different context. He thought that this may be due to recognition of the particular context they have entered. Consequently, he held that the experiment always puts a label on the context in which one is (Brand, 1973).

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