

The Educational Importance of Deep Wonder

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That wonder is educationally important will strike many people as obvious. And in a way it is obvious, because being capable of experiencing wonder implies an openness to (novel) experience and seems naturally allied to intrinsic educational motivation, an eagerness to inquire, a desire to understand, and also to a willingness to suspend judgement and bracket existing—potentially limiting—ways of thinking, seeing, and categorising. Yet wonder is not a single thing, and it is important to distinguish at least two kinds of wonder: active wonder(ing), which entails a drive to explore, to find out, to explain; and deep or contemplative wonder, which is not inherently inquisitive like active wonder and, as a response to mystery, may leave us lost for words. Claims for wonder's importance to education and science often do not distinguish between the two, but whereas for active wonder that importance seems obvious, this is much less so for deep wonder, which by its very nature rather seems to be anti-educational. Yet in this paper I explore exactly the educational importance of deep wonder. This importance is found to lie, not just in its motivational effects—real though they are—but in making us attend to the world for its own sake, and making us aware of the limits of our understanding.

INTRODUCTION

My purpose in this paper is to investigate the educational importance of a particular type of wonder that I here call 'deep wonder'. In a recent volume dedicated to exploring and promoting the role of wonder in education Yannis Hadzigeorgiou describes wonder as 'the engine of all intellectual inquiry' (Hadzigeorgiou, 2014, p. 40), and he quotes Einstein as saying that the experience of the mysterious 'is the fundamental emotion which stands at the cradle of true art and science. He who knows it not and can no longer wonder (. . .) is as good as dead, a snuffed-out candle' (p. 44; the quote is from Einstein, 1949, p. 5). In their review of Fisher's book *Wonder, the Rainbow and the Aesthetics of Rare Experiences* Sinclair and Watson describe his central claim as the claim that 'wonder is the "poetics of thought"'; it is 'the

core energy which takes us along the pathway from the unexpected moment of aesthetic delight through to the experience of intrinsic satisfaction and intelligibility' (Sinclair and Watson, 2001, p. 40).¹ Such statements have a venerable pedigree; they echo (among others) the Socratic claim that the sense of wonder is the foundation of philosophy.² I believe this is still quite a common idea, and one that will strike a chord with many educators. And I guess there is a sense in which the educational relevance of wonder is obvious, since being capable of experiencing wonder implies an openness to (novel) experience and seems naturally allied to intrinsic educational motivation, an eagerness to inquire, a desire to understand, and also to a willingness to suspend judgement and bracket existing—potentially limiting—ways of thinking, seeing, and categorising (see Opdal, 2001; Forrest, 2013).

But there are different kinds of wonder, and for one kind, 'deep wonder', which is actually the kind to which Einstein seems to allude, I think it is much less obvious why and how it might play a role in education. In fact, it seems that there is a tension between education and this kind of wonder. An early poem by Rainer Maria Rilke brings out this tension rather well:

I am so afraid of people's words.
Everything they pronounce is so clear:
this is a hand, and that is a house,
and beginning is here, and the end over there.

Their meaning frightens, their mockery-play
and their claims to know what's coming, what was;
no mountain thrills them now, their estates
and their gardens abut directly on God.

I warn; I ward them off. Stay back.
It's a wonder to me to hear things sing.
You touch them, and they stultify.
You are the very destroyers of things.

Ich fürchte mich so vor der Menschen Wort
Sie sprechen alles so deutlich aus:
dieses heisst Hund, und jenes heisst Haus,
und hier ist Beginn und das Ende ist dort.

Mich bangt auch ihr Sinn, ihr Spiel mit dem Spott,
sie wissen alles, was wird und war;
kein Berg ist ihnen mehr wunderbar;
ihr Garten und Gut grenzt grade an Gott.

Ich will immer warnen und wehren: Bleibt fern.
Die Dinge singen hör ich so gern.
Ihr rührt sie an: sie sind starr und stumm.
Ihr bringt mir alle die Dinge um.³

Learning to name things, to order and categorise them, will seem to many of us naturally associated with education—certainly with the growth of knowledge as this is promoted in our schools. Yet Rilke suggests that such knowledge and naming may be antithetical to the experience of wonder—'no mountain thrills them now' (the literal translation from the original German would be: 'no mountain is wonderful to them now'); and things stop singing when they are 'touched' by being named.

Interestingly, it has also been suggested that the tension between knowledge and wonder runs deep, historically—that modern (wo)man is less capable of or less prone to wonder, that our sensibilities have been blunted, and that this is partly due to the rise of natural science (Parsons, 1969).

It seems, then, that there are aspects of wonder or types of wonder—the cluster of experiences, states of mind, and activities that fall under that heading—that make it an obvious ally of education (even a 'cognitive tool'—Egan, 1997), as well as aspects—or another type of wonder—that are in tension with it, and hard to reconcile with it. There is surely something paradoxical, for example, about the suggestion that the experience

of mystery—not ignorance, but *mystery*—is fundamental to education or to scientific inquiry. Rilke's poem evokes a number of contrasts that can also be found in the philosophical and educational literature on wonder, and that bring out this ambiguity: the known and knowable versus the unknown and mysterious, the conventional vs. the imaginative, the bounded vs. the boundless.

This ambiguity in the relation of wonder to education has received very little attention in the literature, but to my mind it is worth exploring.⁴ Rather than assume that what is true for one kind of wonder—a kind of wonder that is akin, in some respects, to curiosity—is true for all types of wonder, we should take care to investigate this. If 'deep wonder' is as important to education as we might infer from Einstein's claim, i.e. fundamental to it in some way, it is important to know why and how this can be so. It is important, firstly, simply because it is intellectually unsatisfactory to leave such strong claims—backed by deep and widely shared intuitions—unexamined. It is also important, secondly, because if we understand better what the role of deep wonder in education is or can be, we will be in a better position to judge whether current education *systems* make enough room for this kind of wonder. There has probably always been at least some tension between formalised education arrangements and opportunities to experience (deep) wonder; but there are some reasons to think that current education systems in the Western world constitute a particularly hostile environment for the experience of wonder (let alone its cultivation)—which is not to deny, of course, that particular *classrooms* may well be wonder-full! If this is indeed the case, this lends a further urgency to the question of this article. Boredom, as Piersol (2014, p. 11) suggests, is certainly a problem, but I doubt whether it is a greater problem today than in schools in any period of history. What *does* seem to be typical of today's schools, however, is 'a remarkable rise in interest in the measurement of (...) educational "outcomes"' (Biesta, 2009, p. 33), an ever-increasing emphasis on performance, and an ever-quickenening pace. Because wonder is 'slow', and especially deep wonder, as we will see, not of obvious utilitarian value, time and space to wonder are likely to come under pressure.

In my attempt to shed some light on the importance that deep wonder has or may have for education I will begin by taking a closer look at the experience and concept of wonder and the relationship between curiosity and different types of wonder. I then turn to the question of the educational importance of deep wonder. I first discuss one possible answer, namely that deep wonder is educationally important because it motivates us to inquire and thereby to learn. Because this suggestion is ultimately unsatisfactory I turn to an alternative answer; I will draw on an analogy with love relationships—the love we feel for the other, in particular for, and due to, the Other in the other—in order to show why and how even 'deep wonder', a kind of wonder that renders us speechless, is important in education.

Before we begin a few remarks on what I will *not* attempt to do in this article are in order. Firstly, as Vasalou (2015) rightly emphasises, 'wonder' is not a unified phenomenon, not a single concept that neatly fits a single and homogeneous experience. So I do not pretend to have discovered the

whole or the essence of wonder or even of the types of wonder I focus on; more could be said about those, too. For example, in the history of wonder—‘the’ experience and ‘the’ concept—there is a close relationship between wonder and fear; wonder ranges from the delightful to the terrible and the horrible (*cf.* Quinn, 2002; and Vasalou, 2015, ch. 2). But I must leave this to one side here. In this article, it is a *particular* type of *experience* that is central—an experience we can recognise as belonging to the family of wonder, and that I call ‘deep wonder’—and not the *concept* of wonder. So I will not try to exhaustively analyse the concept or the whole range of experiences that belong to the family of wonder. Secondly, I will not present a developmental or educational *theory* of wonder, but will rather argue for the potential educational *importance* of deep wonder, a type of experience presented, in a sense, in ‘adult’ form. It is doubtful whether children of *all* ages, even the very youngest, are capable of experiencing this type of wonder in full form; but it is certainly something children can grow into *as* children, and a real possibility in primary school as well as beyond.⁵ Thirdly, I will rely on a fairly loose notion of what ‘educational’ means, rather than present a rigorous definition.⁶ With Peters (1970, p. 37) I would say that education ‘picks out no particular process’, but rather ‘criteria which processes must satisfy’. I do not think it possible to establish necessary and sufficient criteria for education, but that does not seem necessary either to convey an adequate sense of what I am talking about in this article. I take it that Peters was essentially right in suggesting ‘that “education” implies the transmission of what is worth-while to those who become committed to it’ and that education ‘must involve knowledge and understanding and some kind of cognitive perspective, which are not inert’ (p. 45). ‘Transmission’, however, needlessly excludes education ‘by experience’ that does not involve another person as educator; non-tutored experiences that otherwise satisfy these criteria are also ‘educational’. At the same time, it is not a matter of course that tutored experiences—such as go on in our educational institutions—are indeed ‘educational’; they may fail to transmit anything worthwhile, and they may fail to develop children’s understanding of the world.⁷ I would stress that the understanding involved need not be *purely* cognitive or intellectual; nevertheless, ‘education’, to my mind, does imply the presence of a cognitive *element* in the progress made, and implies the aim at an increased potential to articulate one’s feelings, thoughts and response to the world. Thus education is a process (or characteristic of processes) in which more and more of the world is opened up to us, though at the same time—and for that very reason—it may become increasingly clear to what extent it remains ‘closed’ to us.

CURIOSITY AND WONDER

Presumably—hopefully—all teachers want their pupils and students to be curious. To be curious means, in essence, to want to know, and this is obviously a desirable condition in a student. Wonder can be similar. As Laura Piersol notes in her discussion of Socratic/Platonic wonder, ‘wonder becomes an essential step in learning, as the very state of puzzlement [*that*

Socrates tends to induce in his partners in dialogue] is what leads to a longing for the truth' (Piersol, 2014, p. 5, author's addition in italics). Similarly, Dave Trotman discusses the educational role of wonder in terms of a transition from an initial 'wow!' (for instance, on discovering a 'very large, wriggling worm' in a clod of earth) to the enquiring 'how?' and 'what if?' (Trotman, 2014, pp. 23–24).

Yet wonder is to be distinguished from curiosity. If this sounds essentialist, it is not intended that way. I do not mean to suggest that these words simply pick out 'things' in reality that can be neatly distinguished from each other; rather, what I mean is that there are types of experiences, of relating to the world, that are 'traditionally' (though I am aware there is not a single, unified tradition) expressed in terms of wonder, and that differ in important respects from types of experience and of relating to the world that are more commonly expressed in terms of curiosity. This does not preclude the possibility that 'wonder' is sometimes used in ways not significantly different from common uses of 'curiosity', or vice versa; nor that curiosity can cause, or shade off into, wonder. It may not be a philosophically fashionable view, but I think we need to keep in mind that words, for all their influence on how we think and perceive the world, are also 'just' imperfect tools—imperfect in the sense that they cannot fully and precisely express experience, and that often language lags behind experience, so that we need to use it in new and creative ways and bend it to our purposes. So again, it is certain types of experience, certain ways of perceiving things, that are primary here, and which I think it is important to distinguish; and to this purpose I use a conceptual distinction between wonder and curiosity.

One difference between wonder and curiosity, then, is that curiosity is comparatively limited in its reach, in what it motivates one to inquire into. With regard to the former, Opdal (2001, p. 342) following Heidegger, suggests that '[c]uriosity is a motive that can move a person to do all kinds of research, but within an accepted framework. (. . .) Wonder, on the other hand, is not a motive, but an experience or state of mind signifying that something that so far has been taken for granted is incomplete or mistaken'. Wonder, for Opdal (p. 332), 'is the state of mind that signals we have reached the limits of our present understanding, and that things may be different from how they look', and it may lead us to question the frames of understanding we had until then taken for granted. Wonder, then, probes deeper—or leads us to probe deeper—than curiosity.⁸

Typical of wonder, therefore, is also a heightened awareness that one's knowledge is incomplete or mistaken (Quinn, 2002, 18ff; Hadzigeorgiou, 2014, p. 48), an awareness too, as Whitehead (1962, p. 28) suggested, of 'unexplored connexions with possibilities half-disclosed by glimpses and half-concealed by the wealth of material' (Hadzigeorgiou, 2014, p. 48). Curiosity implies the realisation that there is *some particular thing* one does not yet know, but it doesn't foreground the question of the general extent of one's current knowledge (or ignorance) the way wonder does.

Moreover, wonder has greater psychological depth; it 'engages the whole person' (Opdal, 2001, p. 332) in a way that curiosity does not. This is not

to deny the phenomenon of burning curiosity, but rather to suggest that one is in that case temporarily taken over by a single, relatively superficial, motive rather than engaged on all levels—cognitive, emotional, aesthetic, existential.⁹ Being overwhelmed by the vastness of space on a clear night incites—or is constitutive of—wonder, not curiosity. Quinn (2002, p. 26) in effect combines this point with the first difference between curiosity and wonder, the difference in object, when he says that ‘curiosity does not address the big questions’: ‘No one says “I am curious to know the nature of God” or “I am curious to know the meaning of life”’. But when a science teacher, to borrow an example from Hadzigeorgiou, helps students become aware ‘that gravity is indeed the weakest of all forces, since a tiny magnet can hold a paper clip despite the fact the whole earth is pulling down on it’ (2014, p. 47), (s)he is also likely to evoke a sense of wonder, not just curiosity. Questions about such things as the nature of gravity, when concerned with the *mysteriousness* of the phenomenon (which persists despite all that is known about it) and therefore asked with a certain affective and cognitive inflection, are in the same category.

A last difference I will mention here is that whereas curiosity always concerns something new, an interesting novelty, a fact with which one is not familiar, wonder as often as not concerns the familiar; it defamiliarises the familiar, making it appear in a new light, as if seen for the first time (as is often said) —in that different sense, wonder also has an aspect of novelty (Parsons, 1969, p. 85). This is not to say one cannot become curious about something familiar; about how cheese is made, say, or where cashew nuts come from. But curiosity always concerns a *new* fact about the familiar object, it needs to tread new territory. Wonder, on the other hand, does not seek new ground but changes the ground under one’s feet. That being said, it is easier to experience wonder at something unfamiliar; Fisher (1998, p. 19) even says that ‘wonder has its elemental existence in surprise’. And it is commonly observed that (the ability to) wonder wears off with increasing familiarity. To sustain one’s sense of wonder at the (familiar) world, then, requires an effort—a point to which I shall return further on.

‘ACTIVE’ WONDER AND ‘DEEP’ WONDER

So wonder differs from curiosity in a number of respects. But it is important to distinguish also between two different types of wonder. A common distinction in the literature is between ‘passive’ wonder and ‘active’ wonder(ing) (Parsons, 1969, p. 88; Hadzigeorgiou, 2014, p. 45); this has also been expressed in terms of wonder as a noun and the verb ‘to wonder’ (Zazkis and Zazkis, 2014, p. 67), as well as in terms of ‘wondering at’ and ‘wondering about’ (Goodwin, 2001) and ‘wonder(ing) at’ and ‘wonder(ing) why/how’ (Sinclair and Watson, 2001). Active wonder(ing), since it involves a drive to explore and a desire to know or understand the why or how of something that causes amazement or puzzlement, is more akin to curiosity than passive wonder is—yet for the reasons given above it is still to be distinguished from curiosity. Curiosity is a different ‘subjective form’—to borrow a Whiteheadian term to describe the ‘how’, the quality, of

experience—than wonder, also when it is active wonder(ing) we are dealing with. Either can occur without the other (*cf.* Hadzigeorgiou, 2014, p. 46).

‘Passive’ wonder is even further removed from curiosity; it is an emotional response that does not, in itself, involve a drive to explore. Taylor (1988, p. 169) appears to be speaking of this kind of wonder when he writes: ‘Wonder is poetic and is content to view things in their wholeness and full context (. . .) [C]uriosity is not wonder, the former being the itch to take apart, the latter to gaze on things as they are’ (quoted in Hadzigeorgiou, 2014, p. 46). Rather than of ‘passive wonder’—a somewhat misleading term, for it is not a purely passive state of mind—I would prefer to speak of ‘deep wonder’, though other terms might be used (‘contemplative wonder’, for instance), and the terminology in itself is of little importance, as long as it does not mislead us, does not make us lose sight of the experience we’re trying to get into focus. In this kind of wonder we sense the utter mysteriousness of whatever it is we are contemplating; it is an experience that leaves us lost for words. It is akin to awe, though wonder is a more mellow and less determinate state of mind—less determinate because it is not clear how one should respond, other than by opening up to the mystery one senses.¹⁰

Mary-Jane Rubenstein (2008) has made a distinction between Aristotelian and Socratic/Platonic wonder along these same lines (see Vasalou, 2015, pp. 56–59). Aristotle, seemingly echoing Socrates, wrote that ‘[i]t is through wonder that men now begin and originally began to philosophize’ (*Metaphysics*, 982b10–25, cited in Quinn, 2002, p. 18). But whereas Aristotelian wonder is intended to motivate us ‘to escape from ignorance’ (*Metaphysics*, 982b10–25, *idem*) and thus to dissolve itself, being replaced by knowledge of how things are and came to be the way they are, Socratic/Platonic wonder is aporetic, vertiginous and invites us ‘to remain open to (. . .) vulnerable uncertainty’ (Vasalou, 2015, p. 59).

Martha Nussbaum has suggested that in wonder we are ‘maximally aware of the value of the object, and only minimally aware, if at all, of its relationships to our own plans. That is why it is likely to issue in contemplation rather than in any sort of action towards the object’ (2001, pp. 54–55, quoted in Vasalou, 2015, p. 16). I think both these points, and especially the latter, are particularly true of deep wonder; it is this type of wonder that is more likely, in the first instance at least, to issue in contemplation rather than action; and this type of wonder is also least shaped by pre-existing purposes or interests—other than, perhaps, an ‘interest’ in experiencing wonder itself, and in allowing ourselves to be moved by things’ importance in themselves.¹¹ If in deep wonder we are indeed least aware of any connection with ‘our own plans’, this may help explain the relative ‘indeterminateness’ of wonder; for whereas the experience of a *specific* kind of value will always be related to some specific concern of ours, this is not so for the intimation of value or importance we experience in deep wonder. It is a suggestion, a feeling *that* what we are contemplating is important, though it remains unclear why and how.¹² As Vasalou writes, ‘wonder seems to lack the strong rational core that characterizes most other emotions, and that ordinarily lends itself to articulations of their specific logic’ (2015,

p. 29), and this, I would add, seems especially true of deep or contemplative wonder, where something's strangeness or wondrousness cannot readily be articulated in terms of how it surprised us or conflicted with what we (thought we) knew. Hence we are lost for words.

It is not difficult to see why active wonder would be worth promoting in an educational context; but for 'passive' or 'deep' wonder this is much less clear, since this seems to be associated with 'bewilderment, surprise and astonishment, even incomprehensibility' and seems to be akin more to religion than to science (Hadzigeorgiou, 2014, p. 51). If this kind of wonder renders us speechless, how can it still be thought educationally important? It seems to be anti-educational, rather than a stimulus to learning. This also seems to have been behind the dismissal of wonder that accompanied the rise of scientific inquiry in early modern Europe. In this 'age of discovery, invention, venture capital, and conquest', Mary Campbell writes, 'the active, not the contemplative virtues were in the ascendance' (Campbell, 1999, p. 4, in Vasalou, 2015, p. 41). 'With its persistent association with "speechlessness and a kind of paralysis" during this period', Vasalou (2015) goes on to explain, 'wonder could only come to appear suspect'. The identification of wonder with deep wonder, I would say, led to a distrust of wonder as antagonistic to the progress of learning.

It might be tempting to resolve the ambiguity in the relationship between wonder and education by stopping here; i.e. by simply saying that active wonder is a spur to education while education and deep (or contemplative, or passive) wonder don't mingle. But this is too easy. For one thing, both types of wonder are interconnected, and they may in practice shade off into each other: experiencing deep wonder may lead one to wonder (about its causes, say), and wondering and inquiring 'may lead to revelations that result in [deep] wonder' (Zazkis and Zazkis, 2014, p. 67). For another, to dismiss deep wonder as educationally irrelevant would fly in the face of strong intuitions, such as those cited at the beginning of this paper.

Hadzigeorgiou does mention the problem, the apparent contradiction between what I call 'deep wonder' and education. But he is quick to note that this kind of wonder still entails a particular kind of awareness, namely of 'the beauty and immensity of the natural world', and therefore can still be seen as relevant in science education since 'it could encourage deeper involvement with and also respect for, Nature' (2014). In their review of Fisher (1998), Sinclair and Watson (2001, p. 41) raise the issue explicitly, but do not expand on it beyond a single (though interesting) suggestion: 'How does wondering *at* [as opposed to wondering *why* or *how*] relate to learning? Fisher does not say, but perhaps wondering *at* is closely tied to motivation, since, as Green (1971) argues, it is in principle never sated and because it always contains the seeds of what he terms a "temperate" rather than a mere flippant curiosity' (author's addition in brackets). I believe the educational importance of this kind of wonder deserves more careful scrutiny, however. The question of the educational importance of deep wonder needs to be addressed, not sidestepped or quickly skipped over. It concerns the strong and, I believe, widely shared intuition that the capability of experiencing deep wonder at the universe and all it contains is not just

educationally relevant, but lies at the heart of education. It may be possible to vindicate this intuition, but this is not obviously the case.

IS DEEP WONDER EDUCATIONALLY IMPORTANT BECAUSE IT INSPIRES A QUEST FOR THE TRUTH?

It is an empirical fact that wonder—also deep wonder—can lead to active wondering, to inquiring activity. In his phenomenological analysis of wonder, Parsons devotes much attention to this transition, making the sense of possibilities for exploration central to the experience of wonder, even ‘dumb wonder’, even the kind of wonder—occasioned, for instance, by the sense of our smallness in the vast universe—that ‘borders on awe’ and makes us ‘feel powerless’, a ‘primordial religious feeling’ (1969, pp. 88–89). He writes:

What attracts and holds the wondering imagination is the mystery of quality and meaning, dramatically or silently challenging man, waiting to be unraveled. It is this lure of the unknown, this temptation of exploring the hidden labyrinth, that gives to the wonderful its peculiar fascination (1969, p. 87).

So it seems there is an easy answer to the question of the educational importance of deep wonder after all: deep wonder is worth promoting in education because in actual fact it is a powerful stimulus to inquire, explore and learn.

I think this is empirically true, yet at the same time an unsatisfactory answer. The problem with it, in my view, is that it seems to involve a kind of (self-)deception. Deep wonder distinguishes itself from both curiosity and the type of wonder that is more akin to curiosity in that it involves not-knowing of a different kind—not a not-yet-knowing, but a fundamental, irresolvable not-knowing. The paradigmatic example is the ‘philosophical’ wonder at the bare fact of existence, the fact—and the mysteriousness of that fact—that there is something rather than nothing, the *that* or the Being rather than the *how* of beings, in Heideggerian terms.¹³ But something more concrete—though, on the other hand, is there something more concrete than being?—may invoke the same kind of wonder. You may be taking the tube to work and be suddenly struck by the strangeness of this so familiar situation; all these people moving underground in the belly of a metal snake, living ordinary lives that are so different from the ordinary lives of people a century, a millennium, a 100,000 years ago and also in many ways so similar still. This sense of historical depth can evoke a kind of dizziness and heighten the experience of wonder. Or you may be more persistently aware of the beauty and mysteriousness of the animals, plants and flowers around you, each living their own life parallel to yours. I could go on multiplying examples ranging from the grandiose to the quiet and modest; but the best thing would be to supply one’s own. Now, it is certainly possible in these cases that the experience inspires a person to learn more about the nature of the universe, the (pre)history of human life or the nature of organic life. But the crucial thing is that such inquiry would not lead to answers to the silent

question implicit in the wonder that sparked and fuelled it. Nothing you would find out would or could (dis)solve the original wonder. As Sinclair and Watson (2001, pp. 40–41) write:

When I wonder *why* the rainbow appears, or *how* it appears, my wonder will cease when I find the answer—my curiosity will be satisfied. Yet I can also (continue to) wonder *at* the rainbow. How can it be that there is a rainbow? This question will not be resolved by an investigation; it simply shows that I stand astonished before the contingency of the rainbow, even though I know *how* it works.

If this is true, then to stimulate children's sense of deep wonder in order to incite curiosity and active wondering would in a way be an educational ploy. We would be sending them on a false quest, a quest that is doomed to fail—there is no Holy Grail to be won, only souvenir cups. Deep wonder would be educationally important or useful because the question contained in it—‘how can it be . . . ?’—urges and motivates children (and adults) to find answers to treacherously similar questions, perhaps exactly similar in linguistic form, though crucially different in meaning and subjective form. Deep wonder is what gets the train going, but once it is moving it is immediately sidetracked and bound to continue its journey on a track forever parallel to the one it departed from.

A possible reply might be to say that the picture of the initial situation sketched here is incorrect; perhaps it is seldom the case that we start out with deep wonder and that this then leads to active wondering of the kind more similar to curiosity. Perhaps the original situation or state of mind is (almost) always mixed, a mixture of deep wonder and ‘normal’ wondering why or how. If this state of mind inspires a quest for understanding and explanations there seems to be no ‘deception’ involved. Even if we grant this, however, (and in light of the multiplicity of wonder, both experientially and conceptually, how could we do otherwise?), it still seems that the element of deep wonder in this mixed state of mind would either be educationally sterile or contain a ‘false’ promise, a desire to do something that cannot satisfy the desire. So can the intuition that deep wonder is educationally important be vindicated? Perhaps it can. The final section offers a suggestion to this end.

DEEP WONDER AND LOVE OF THE OTHER

William Stoner, the protagonist of John Williams’ novel *Stoner*, enters the University of Missouri as a young man to study agriculture but is struck and, in a short period of time, transformed by the encounter with English literature in the compulsory classes taught by Archer Sloane. The sense of a meaning to be found in literature, yet a meaning that, at first, he is completely unable to articulate, makes Stoner perceive himself and the world in a new light:

The thin chill of the late fall day cut through his clothing. He looked around him, at the bare gnarled branches of the trees that curled and

twisted against the pale sky. Students, hurrying across the campus to their classes, brushed against him; he heard the mutter of their voices and the click of their heels upon the stone paths, and saw their faces, flushed by the cold, bent downward against a slight breeze. He looked at them curiously, as if he had not seen them before, and felt very distant from them and very close to them (Williams, 2003, pp. 12–13).

When he was much older, he was to look back upon his last two undergraduate years as if they were an unreal time that belonged to someone else, a time that passed, not in the regular flow to which he was used, but in fits and starts. One moment was juxtaposed against another, yet isolated from it, and he had the feeling that he was removed from time, watching as it passed before him like a great unevenly turned diorama (Williams, 2003, p. 13).

During his fourth year at the University, Sloane asks him to come to his office, officially to discuss the formal changes to be made in view of the fact that Stoner had in fact abandoned the study of agriculture and embraced literature. But actually Sloane wishes to talk to Stoner about becoming a teacher at the university:

“... you would probably be able to teach while you worked toward your doctorate. If that sort of thing would interest you at all”.

Stoner drew back. ‘What do you mean?’ he asked and heard something of fear in his voice. Sloane leaned forward until his face was close; Stoner saw the lines on the long thin face soften, and he heard the dry mocking voice become gentle and unprotected.

“But don’t you know, Mr Stoner?” Sloane asked. “Don’t you understand about yourself yet? You’re going to be a teacher”.

Suddenly Sloane seemed very distant, and the walls of the office receded. Stoner felt himself suspended in the wide air, and he heard his voice ask, “Are you sure?”

“I’m sure”, Sloane said softly.

“How can you tell? How can you be sure?”

“It’s love, Mr Stoner”, Sloane said cheerfully. “You are in love. It’s as simple as that” (Williams, 2003, p. 19).

Stoner’s state of mind after his encounter with literature is much like a continual state of deep wonder, and therefore, to me, the later association of this state with love and being in love is interesting. I would not dare to claim to be an expert in the area of love, either in real life or as a subject of philosophical inquiry. I am certainly unable to expound a theory of love. But I hope I can make some useful and tentative suggestions that may illuminate, by way of analogy, the educational importance of deep wonder.

An important reason to think the analogy may prove fruitful is that there is also a close *affinity* between wonder and love. Cocovacki (2014, p. 161) writes about German philosopher Nicolair Hartmann that ‘[a]s a young man, with World War I ending and an uncertain career ahead, Hartmann confessed to his dearest friend that he was “always in love and perpetually perplexed”’—much like Stoner, perhaps. The affinity between love and

wonder can be explained, in part, by their ‘erotic’ nature, the longing that characterises them; wonder is the beginning of philosophy, the love of wisdom, ‘a need; it desires what it has not’ (Arendt, 1978, p. 178). At the very least, wonder implies a longing for meaning; but in many cases especially deep wonder borders on and may lead to a love of the world (cf. Cicovacki, 2014, pp. 147–152).¹⁴

But the analogy I wish to pursue here is, initially at least, that between wonder and love for another person. To my mind, one aspect of such love—one aspect among others, some of which may be quite banal perhaps—is exactly a kind of deep wonder, an amazement about the ‘wonderful’ creature that is the ‘object’ of your love. It may become rarer with time, as the growing familiarity with someone may deceive you into thinking you know her or him, and know all there is to know, but—hopefully—in most intimate relationships the experience will recur from time to time. Quinn (2002, p. 22) speaks of ‘an unfathomable mystery in every person’, but I think love is often needed to make us attentive to this mystery.

The strangeness of the other, the ‘Otherness’ of the other, I think, does often stimulate us to try and understand her better, despite the fact that ultimately, her otherness will elude our ‘grasp’. Does this mean the attempt to understand is a lost cause and a false quest?

I do not think it is, for the goal of the understanding and the effort to understand in this case is not (and should not be)—at least not solely—practical in nature and also not just to satisfy curiosity or a desire to understand. It is, rather, the *reverse*, namely to keep alive the wonder, the fascinating not-knowing, the mystery—and thereby also the spark that keeps love alive and lively. Just as in intimate relationships love for the other as ‘other’ sustains and deepens itself through an effort to understand the other, so in any relationship to what is ‘other’, deep wonder takes a detour to maintain itself. It is not instrumental, not *for* something else. This is emphasised in Hartmann’s views of both personal love and love of the world. Cicovacki (2014, p. 152) writes:

Personal love is an uncalculated giving of oneself without losing oneself in this relationship. Love of the world means a refusal to control, manipulate or exploit. It is a refusal to focus only on usefulness and the values of practical significance and is based on wonder and trust. It means the affirmation of all reality

Thus, the analogy with personal love can help us think about the educational importance of deep wonder because deep wonder is the basis for (and often in its experiential nature very close to) love of the world.

But the link with understanding—and therefore with education—comes out in Hartmann’s remark that ‘he who loves is the only one who sees; while he who is without love is blind’ (quoted in Cicovacki, 2014, p. 161). Whitehead suggests a similar link when, after noting that while philosophy begins in wonder, once the philosopher is done the wonder remains, he writes that what has been added is ‘some grasp of the immensity of things, some purification of emotion by understanding’ (1968, pp. 168–169). Our

wonder-inspired effort to understand the other, then, leads to a more refined ignorance. At the very least, but of no small importance, the more we understand of the complexity of the other, the stronger our awareness will be of the ‘other’ that escapes our grasp.

This is one aspect of the educational importance of deep wonder: a crucial characteristic of being educated is coming to realise what you don’t know, what you only think you know, and what you cannot know. Another aspect relates to the fact that without deep wonder we might without noticing it lose something crucial: our interest in the world. Deep wonder sustains and, where necessary, revives our interest in the world—not the having-a-stake-in-it or wanting-something-out-of-it kind of interest, but the kind that involves an appreciation of things for their own sake, when, as Rilke wrote, we stay back and listen to hear things sing; the kind, in short, that opens the way to a love of the world. This, too, is educationally important, because it is in fact the epitome of openness to the world; if education is to open up the world to us, deep wonder must be fundamental to it. We should not be misled by the fact that deep wonder may render us speechless, because this should not be taken to mean that it blocks all speech, all efforts at articulation—if it did, most of the poetry and philosophy in the world would never have been written. But wonder’s temporary arrest of our movement and gaze, ‘bidding us to stand before objects with still attention or to lean closer to dwell on them more intently’ (Vasalou, 2015, p. 21), is indeed only temporary and may move us to express in ever new—because ever-imperfect—ways why the world is worth attending to for its own sake.¹⁵

There is an ethical and political aspect to this, too. An intrinsic appreciation of the world and a strong awareness of what lies fundamentally beyond our comprehension is both personally enriching and politically necessary. No civilised society can do without people who know what they (and we) don’t know—that strange Socratic boast. And here the fundamental, irreducible not-knowing is at least as important as the not-yet-knowing. Without the former we might lose our interest in the world, and lose our intrinsic appreciation of it, our sense of its independent worth; and without that sense we might become (as in a very real sense we perhaps already have) ‘the very destroyers of things’.¹⁶

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NOTES

1. With the first part of the statement they take some liberty with what Fisher says, since he speaks of ‘a lively border between an aesthetics of wonder and (. . .) a poetics of thought’ and ‘the path that runs at the border between an aesthetics of wonder and a poetics of thought’ (1998, pp. 6, 7).
2. Plato, *Theaetetus* 155d: ‘[T]his feeling—a sense of wonder—is perfectly proper to a philosopher: philosophy has no other foundation, in fact’ (Plato, 1987, p. 37). Wonder is in this case a translation of a *thauma* word (*thaumadzein*). Instead of ‘foundation’ others have translated ‘beginning’:

- wonder is the beginning ('arche') of philosophy, where this is understood as its 'fons et origo', its well-spring and enduring inspiration (*cf.* Pieper, 1963, p. 99; and Quinn, 2002, pp. 41–42).
3. I have copied the original from Rilke, 1948 (p. 16) and the English translation from Rilke, 2011 (p. 7). In the third line the translators have chosen not to translate 'Hund' (dog) but to use 'hand' instead, to preserve alliteration.
 4. Apart from this, Laura Piersol, 2014 (p. 3) also notes that 'in our education system today the concept is still almost completely absent'.
 5. Quinn, 2002 (p. 32), however, suggests that 'our very earliest experiences are of the greatest and most primary of all mysteries, the mystery of being', and that this entails a type of intimate knowledge of the world we can never lose, that is inherently wonderful and the basis for all later experiences and types of wonder.
 6. Though I cannot provide more than a fairly loose and general description of what I mean by 'education' and 'educational' here, this description does clearly differ from some common understandings of the term, such as those that understand education to refer to any teacher–student relationship or other formalised setting created to further its attendants' education. I hope that readers who use the term 'education' in that way can look past the terminological issue; after all, I am not interested in defining the 'correct' use of the term, but much more in the experiences and processes themselves that enhance our understanding of the world and our ability to find our way in it, and the importance that deep wonder has in this connection.
 7. They may also fail to satisfy Peters' third criterion: 'that "education" at least rules out some procedures of transmission, on the grounds that they lack wittingness and voluntariness on the part of the learner' (1970, p. 45); note that for Peters this is a *minimal* voluntariness, which does not imply 'the ideal of autonomous activity enlivened by interest' or the notion of self-directed learning (p. 43).
 8. What I wish to take on board, then, from what Opdal writes, is that wonder challenges the taken for granted in a way that curiosity does not; not the distinction between a 'motive' and 'an experience or state of mind', which I find rather problematic. Both wonder and curiosity can be aroused by something one encounters; curiosity need not be a permanent motive (as it may be in some particularly curious or nosy people). And wonder can arguably be a state of being as well, rather than just something one is struck by momentarily; something that makes us seek out certain situations and experiences, and in that sense also a 'motive'.
 9. I don't take these to be mutually exclusive categories; they are merely intended as an indication of the different ways in which one is involved in experiences of wonder.
 10. For Piersol, 2014 (p. 19, note 4) awe refers to 'a sense of mystery that is unexplainable, while wonder refers to the extraordinary that is still within the grasp of our comprehension'. She probably follows Egan, 2001 (p. 78) here, who suggests that wonder 'is the emotion evoked by perceiving something as extraordinary or strange, or as an extreme achievement', while awe 'is the emotion evoked by the perception that beyond or behind or beneath the real, tangible world around us we are adrift in an ocean of mystery' and 'is evoked by a vivid awareness of all that lies beyond our comprehension, beyond thinking about and beyond explaining'. In my view this way of distinguishing awe and wonder misses important differences between wonder and curiosity, as well as between different types of wonder; it also overlooks the fact that awe is a more determinate attitude: in awe we are not so much struck by mystery, but we are humbled, admiring, in a way that is perhaps tinged by fear and close to reverence. What Egan intended as a description of awe would serve well to describe what I call 'deep wonder'.
 11. In Heideggerian terms, in (deep) wonder we let things reveal themselves (become 'unconcealed'), rather than enframe them by our preconceptions and purposes; for Heidegger's (complicated) relationship to wonder see Rubenstein, 2012.
 12. Vasalou, following Nussbaum, suggests that 'the ascription of value to the object of one's wonder could at the very least be identified as a central component [of wonder]' (2015, p. 30). But the term 'ascription' is a bit unfortunate, in my view, because it has strong overtones of conscious, purposive action; it obscures the fact that what we experience in wonder is simply important *in us*.
 13. Heidegger himself, it should be noted, said that 'Erstaunen', his translation of *thaumazein*, concerned only the what, not the that, of beings; for the disposition to the latter, deeper, relation he reserved the term 'Verhaltenheit' (Rubenstein, 2012, pp. 148–150).
 14. Cocovacki convincingly argues that although Hartmann himself avoided the term 'love of the world', probably because of Scheler's use of the term, it is nevertheless fully appropriate in

connection with Hartmann's own views, in which wonder, philosophy, and the affirmation of reality are closely connected.

15. Having (almost) come to the end of this exercise we might attempt to formulate something approximating a definition of deep wonder, though we should be wary of making too much of any attempt at definition. Deep wonder might be described as a mode of consciousness in which we experience that which we perceive or are contemplating as mysterious or other, fundamentally beyond our powers of comprehension, yet deeply worthy of our attention for its own sake; in which the limits of our understanding and what we could ever fully grasp are foregrounded; and which engages us on all levels—emotionally, intellectually, aesthetically, and strongly existentially. It is a mode of consciousness, a way of being aware of the world, we are often 'thrown' into, but that we may also cultivate as a disposition. It is an experience with a particular temporality: time slows down, comes to a momentary standstill, we pause to contemplate what arrested our attention, we stop to wonder—or we have made a habit of doing so. The potential ethical significance of wonder, both as a 'striking experience' and as a disposition, which I only briefly allude to here, will be the subject of a further paper.
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REFERENCES

- Arendt, H. (1978) *The Life of the Mind* (San Diego, Harcourt).
- Biesta, G. (2009) Good Education in an Age of Measurement: On the Need to Reconnect with the Question of Purpose in Education. *Educational Assessment, Evaluation and Accountability*, 21.1, pp. 33–46.
- Campbell, M.B. (1999) *Wonder and Science: Imagining Worlds in Early Modern Europe* (Ithaca and London, Cornell University Press).
- Cocovacki, P. (2014) *The Analysis of Wonder: An Introduction to the Philosophy of Nicolai Hartmann* (New York, Bloomsbury).
- Egan, K. (1997) *The Educated Mind: How Cognitive Tools Shape Our Understanding* (Chicago, IL, University of Chicago Press).
- Einstein, A. (1949) *The World As I See It* (New York, The Wisdom Library).
- Fisher, P. (1998) *Wonder, the Rainbow and the Aesthetics of Rare Experiences* (Cambridge, MA, Harvard University Press).
- Forrest, M. (2013) Practising Silence in Teaching, *Journal of Philosophy of Education*, 47.4, pp. 605–622.
- Goodwin, A. (2001) Wonder in Science Teaching and Learning: An Update, *School Science Review*, 83.302, pp. 69–73.
- Hadzigeorgiou, Y. (2014) Reclaiming the Value of Wonder in Science Education. In: K. Egan, A. Cant and G. Judson (eds.), *Wonder-full Education: The Centrality of Wonder in Teaching and Learning across the Curriculum* (New York, Routledge), pp. 40–65.
- Opdal, P.M. (2001) Curiosity, Wonder and Education Seen as Perspective Development, *Studies in Philosophy and Education*, 20, pp. 331–344.
- Parsons, H.L. (1969) A Philosophy of Wonder, *Philosophy and Phenomenological Research*, 30.1, pp. 84–101.
- Peters, R.S. (1970) *Ethics and Education* (London, George Allen and Unwin Ltd.)
- Pieper, J. (1963) *Leisure: The Basis of Culture* (New York, Random House).

- Piersol, L. (2014) Our Hearts Leap Up: Awakening Wonder within the Classroom. In: K. Egan, A. Cant and G. Judson (eds.), *Wonder-full Education: The Centrality of Wonder in Teaching and Learning across the Curriculum* (New York, Routledge), pp. 3–21.
- Plato (1987) *Theaetetus*. trans. R.A.H. Waterfield (London, Penguin Books).
- Quinn, D. (2002) *Iris Exiled: A Synoptic History of Wonder* (Lanham, University Press of America).
- Rilke, R.M. (1948) *Ausgewählte Gedichte* (Den Haag, Verlag L.J.C. Boucher).
- Rilke, R.M. (2011) *Selected Poems*. trans. S. Ranson and M. Sutherland (Oxford, Oxford University Press).
- Rubenstein, M. -J.V. (2008) *Strange Wonder: The Closure of Metaphysics and the Opening of Awe*. (New York, Columbia University Press).
- Rubenstein, M. -J.V. (2012) Heidegger's Caves: On Dwelling in Wonder, in: S. Vasalou (ed.), *Practices of Wonder: Cross-disciplinary Perspectives* (Eugene, OR, Pickwick), pp. 144–165.
- Sinclair, N. and A. Watson (2001) Wonder, the Rainbow and the Aesthetics of Rare Experiences, *For the Learning of Mathematics*, 21.3, pp. 39–42.
- Taylor, J. (1998) *Poetic Knowledge. The Recovery of Education* (New York, Suny Press).
- Trotman, D. (2014) Wow! What If? So What? Education and the Imagination of Wonder: Fascination, Possibilities and Opportunities Missed, in: K. Egan, A. Cant and G. Judson (eds.), *Wonder-full Education: The Centrality of Wonder in Teaching and Learning across the Curriculum* (New York, Routledge), pp. 22–39.
- Vasalou, S. (2015) *Wonder: A Grammar* (Albany, NY, State University of New York Press).
- Whitehead, A.N. (1962) *The Aims of Education and Other Essays* (London, Ernest Benn Limited).
- Whitehead, A.N. (1968) *Modes of Thought* (New York, The Free Press).
- Williams, J. (2003) [1965] *Stoner: A Novel* (London, Vintage Books).
- Zazkis, D. and R. Zazkis (2014) Wondering about Wonder in Mathematics. In: K. Egan, A. Cant and G. Judson (eds.), *Wonder-full Education: The Centrality of Wonder in Teaching and Learning across the Curriculum* (New York, Routledge), pp. 66–85.