

*With reference to McGilchrist's 'divided brain' thesis (2009), how does the method of Goethean Science help to move our thinking beyond the 'parts' into an understanding of 'wholeness'? What does 'wholeness' mean to you?*

## Waiting Until The World Speaks Encountering 'Wholeness' with Goethean Science

*It seems as if the day was not wholly profane, in which we have given heed to some natural object. The fall of snowflakes in a still air, preserving to each crystal its perfect form; the blowing of sleet over a wide sheet of water, and over plains, the waving rye-field, the mimic waving of acres of houstonia, whose innumerable florets whiten and ripple before the eye; the reflections of trees and flowers in glassy lakes; the musical steaming odorous south wind, which converts all trees to windharps; the crackling and spurting of hemlock in the flames; or of pine logs, which yield glory to the walls and faces in the sitting room - these are the music and pictures of the most ancient religion.*

Ralph Waldo Emerson, from his 1844 essay "Nature" (1990: 312)

### INTRODUCTION: MOVING BEYOND MATERIALISM

When it comes to apprehending the natural world around us, do we really grasp it as it presents itself to us, in its completeness? German poet and scientist Johann Wolfgang von Goethe would argue we do not - at least, not anymore - and I am inclined to agree with him. According to biologist Rupert Sheldrake, modern scientific approaches based upon the ideology of materialism have dominated our conceptions of reality since the late 19<sup>th</sup> Century. Sheldrake tells us that under materialist philosophy, matter is the *only* reality, and some of its core convictions are as follows: all matter is unconscious, all natural phenomena are mechanical, consciousness is a by-product of brain activity, the laws of nature are fixed and do not change with time, and that all unexplainable phenomena are illusory (2013: 211).

Author Craig Holdrege, Director of the Nature Institute in New York, offers a personal account of his experience of modern science at school which I find alarmingly relatable. He writes:

I have vivid memories of Mr. Sinn's 9th grade science class. We did experiments with glassware, tubes, and Bunsen burners - and that was neat. But then Mr. Sinn taught us how to explain the results of our experiments. He described processes - he must have been talking about molecules - that we didn't see. These became schemes with letters and numbers on the blackboard. We now were supposed to know what had really been going on. And I was lost. I didn't get it. What did the blackboard diagram have to do with what we'd been observing? This was an unsettling experience that had significant consequences: I avoided science like the plague in high school. (2005: 27)

My initial thought upon reading his narrative for the first time was *Hey, me too!* and I have vivid recollections of the very same feelings that he describes.

Professor of religious studies Jeffrey J. Kripal tells us that anything non-conforming to the ideology of materialism is dismissed, downgraded from a genuine 'phenomenon' to the ranks of 'irrational', 'anecdotal' or 'pseudoscience' (2010: 262), and it is for this reason that I find myself enamoured by Goethe's approach to science. It was Goethe's intuition that there is more to nature's make-up than what material science can bring to light. The philosopher Jeremy Naydler advises us that "for Goethe, the divine is present everywhere in nature. This was not simply a belief, nor an article of faith; it was an intrinsic part of his experience of nature" (2009: 110). Goethe desired to show how one could see the world in what he considered its 'wholeness', without its divinity stripped away. Whilst modern science requires nature to be deconstructed into parts and processes, mechanised to conform with its laws, and reduced to something ultimately lifeless and meaningless, Goethe aspired to intuit a bigger picture beyond materialism, and to witness the phenomenon of study as it actually presents itself to the observer, in living communion with the environment.

Neuroscientist and literary scholar Iain McGilchrist puts forward a fascinating theory of a divided brain, which may shed some light on the discrepancies between these different ways of knowing the world. McGilchrist asserts that the brain is constructed of two

radically different hemispheres, each irreconcilably suited to understanding the world in the different ways. The right hemisphere is the holistic one and can experience the 'whole', whilst the left is reductionist and can see only deconstructed part-objects (McGilchrist, 2009: 46-47). McGilchrist's ideas may prove themselves valuable in the eyes of Goethean Enquiry by providing a neuroscientific background to understanding both what 'wholeness' might be and how we can experience it as observers and researchers.

Therefore, in this essay, I will be exploring how Goethean Science can assist us in moving past the values of materialist science towards an understanding of the 'wholeness' of things, and I will endeavour to employ the theories of McGilchrist to further illuminate the discussion. I will also consider the writings of other relevant authors and academics who question the foundations of modern scientific culture, such as the aforementioned Rupert Sheldrake, Craig Holdrege and Jeffrey J. Kripal, among others. I will also be asking what we might mean when we talk of 'wholeness', and what 'wholeness' means to me.

**PART 1: THE IDEA OF 'WHOLENESS'**

Before discussing how we might move our way of thinking towards an experience of 'wholeness', it seems important to explore the very idea of 'wholeness' itself - what might we mean when we speak of it, and perhaps more importantly for framing this essay, what does 'wholeness' mean to me, the author?

Professor Anne Harrington writes of differing approaches to 'wholeness' or holism in the Introduction to her book *Reenchanting Science*. She outlines three possible interpretations:

- Firstly, holism may be seen as an attempt to understand the physiological processes of a natural phenomenon in light of their function within the organism itself - this approach desires to see organisms as more than a "mere sum of [their] elementary parts and processes";
- Secondly, holism may be concerned with resisting the temptation to separate physical and mental phenomena into "separate ontological categories" - in Harrington's words, this kind of holism aims to "reground the mind in the body and to reanimate the body with the mind";
- And finally, holism may suggest that considering 'the whole' merely at the level of the phenomenon or organism of study is insufficient, and that "organismic processes and behaviour only make sense when studied as part of a larger system, whether that system be the immediate lived world of the organism, nature as a 'whole', or (in some cases) the cosmic logic of the evolutionary process writ large" (Harrington, 1996: xvii).

It is important to recognise that all of us will likely have different ideas about what being holistic means, and our perspectives are likely to be influenced by our backgrounds. For example, we can assume that a material philosopher wishing to work 'holistically' might agree with the first (and perhaps even the third) approach above, but would likely struggle to make peace with the second (recall that for the material scientist, matter is

unconscious and consciousness is no more than brain activity, so the idea of “reanimating the body with the mind” would probably appear somewhat abstract to them).

Personally, I find I sympathise greatly with Goethe’s experience that the divine can found everywhere in nature. I opened this essay with a lengthy but profound quote from Ralph Waldo Emerson, which encapsulates what I feel ‘wholeness’ to be. It is everything Harrington suggests above, and yet more. It is the connectedness of organisms, not just within themselves and with each other, but also with some kind of etherealness which is near impossible to articulate. Emerson’s narrative paints pictures in my head which are poetic and powerful, and they tug at my soul in a manner that evokes something of the majestic in the world.

I feel like what I am struggling to put into words here is reflective of what Goethe himself describes when he says: “As if the external world did not everywhere reveal to those who have eyes the most mysterious laws by day and night. In this persistence of the infinitely manifold I see most clearly the handwriting of God” (Goethe quoted in Naydler, 2009: 110). My own experience of nature is not rooted in a God-centred religion like Goethe’s was, but rather in an animistic Pagan tradition; however, the perception of nature as something sacred and spiritual appears to be much the same.

Thus, for me, there is a deeper incommunicable quality of the ethereal within ‘wholeness’ which is immensely difficult to bend into words. Indeed, the holistic scientist Philip Franses describes ‘wholeness’ as *that which is not yet set*, and writes:

The implication of this understanding is that wholeness is always something we are meeting newly. We never understand it, we never fix it, we never say, “this is what wholeness is”. It is always presenting itself to us newly. There is always the chance that wholeness may appear to us in a different way. Wholeness has a concentrated quality of all things and can tell us something beyond our fragmented knowledge. Wholeness is always leading us beyond where we are. Wholeness is always taking us further, asking us to participate in it in order to give it expression. But that participation never exhausts it, we never come to the end of it. (2015)

So returning once more to Emerson's quote, 'wholeness' may be said to be the wholeness of the natural world in which we live, but which is ever-changing, ever-elusive, and never quite graspable.

This is my own understanding of 'wholeness' with which I am approaching the rest of this essay, and I will be engaging in a personal, poetic and reflexive narrative whilst exploring how we might take ourselves towards an understanding of this kind of holism. If I was approaching this essay from a merely intellectual or material perspective, in my own eyes I would be being neither wholesome nor true to my holistic self, and Goethe himself encourages us to participate in our enquiry in order to meet 'wholeness' authentically, as we shall shortly see. This essay is therefore best considered as an autobiographical reflection of how the authors discussed can help us on our way to encountering 'wholeness'.

**PART 2: GOETHEAN SCIENCE AS A PATHWAY TO 'WHOLENESS'**

Goethe lived between 1749 and 1832, when European society was coming under the sway of a new way of 'knowing' the world. McGilchrist explains that the Western world began experiencing a kind of 'Reformation' around the sixteenth century, which "involved a shift away from the capacity to understand metaphor, incarnation, the realm that bridges this world and the next, matter and spirit, towards a literalistic way of thinking - a move away from imagination, now seen as treacherous, and towards rationalism" (2009: 382). It was the birth of materialism. Goethe, however, resisted this movement that we now know as the Scientific Enlightenment and forged an alternative.

Author Gary Lachman tells us of Goethe's aspirations: "What Goethe wanted to achieve was a kind of 'poetic science', a natural philosophy based not on seeing the world as a kind of machine, but one based on seeing it, participating with it imaginatively, as a living intelligence.... He wanted to see inside of the world" (2018: 57). Naturally, getting *inside* something means getting involved, and Goethe can be quoted as saying: "the phenomenon is not detached from the observer, but intertwined and involved with him" (1998: 155). Goethe believed the detachment and objectivity of the new materialist approach to be impossible; he attested that whatever was occurring inside the observer was just as important as what was happening outside of him, on the basis that our attitude towards what we observe influences what we see (Lachman, 2018: 65-66). Lachman offers us a summary of Goethe's process of investigation, intended to help him encounter 'wholeness':

[What Goethe did] was to direct an inner warmth and attentiveness to what he was observing... Goethe observed his plant in all stages of development, from seed to flower, patiently following it in its process of growth. He would then imagine the plant, building up an inner vision of it, recreating it in his mind, and following this too through its development. (2018: 67)

Goethe's method of enquiry has since been put into practice by Craig Holdrege, who the reader may recall felt alienated by modern science from a young age. Holdrege grew up to

become a biologist, and calls Goethean Enquiry a 'conversation with nature' in which we must engage in a mutual relationship with our phenomenon of study (2005: 31). In acknowledging nature as our partner in conversation, Holdrege states we are recognising it as something in its own right, which in turn infuses us with an attitude of respect (2005: 31-32). It would thus seem to restore something of that balance between human and nature which has been lost or forgotten at the hands of material science.

Holdrege recounts his experience of undertaking Goethean Enquiry with skunk cabbages (2005: 33-45). He describes in great detail the process of following their development throughout the year, visiting them at least every couple of weeks and making numerous intricate observations, sometimes including sketches to encourage careful attention. Holdrege reports he would sometimes approach his plants with specific questions, and other times he would remain open and 'let them come to him'. Later, consistent with Goethe's process described by Lachman above, Holdrege would spend time recalling his observations - shapes, colours, smells - "using the faculty of imagination to experience more vividly what [he had] observed" (2005: 35). In doing so, he would notice where there were gaps in his memory, and look more closely next time. He adds: "when you do this kind of conscious picture building, you grow more and more connected to what you're observing" (2005: 35). Crucially, Holdrege then describes how such an endeavour can lead to a sudden recognition of 'wholeness':

As the process of knowing unfolds - the conversation with the plant - you begin to see the unity of the plant. The remarkable thing is that when you build exact pictures over and over, moving from one characteristic to the next, patterns emerge. You begin to recognise how the characteristics express a whole - the unity begins to reveal itself. When you go back to characteristics you have studied before, they may suddenly express the unity you have discovered through another part. You have an "aha" experience in which you recognise connections between what previously appeared to be separate facts.... While you have to work hard to get such insights, you cannot force them. If you try to, you can be pretty sure they won't come. This is a stage of knowing where you have to learn patience. You prepare the ground, but the moment of seeing always involves an act of grace. Or maybe we could just say: we have to wait till the world speaks. (2005: 45-46)

Philosopher of science Henri Bortoft tells us that the way we can reach the whole is into and through the parts, but warns that we must not make the mistake of believing we

simply put the parts together to create the whole (1985: 284). As can be seen from Holdrege's account, the process is indeed rather more complex than this. Importantly, Bortoft states neither the parts nor the whole must be considered secondary to the other, as they are in reciprocal relationship; "the whole is reflected in the parts, which in turn contribute to the whole" (1985: 284). Bortoft calls this the *hermeneutical circle*, because it is in recognising this 'circle' of the reciprocal relationship between parts and whole that we will discover holism and therefore find meaning (1985: 285).

Iain McGilchrist's divided brain thesis allows us to consider what might be happening in our minds during Goethean Enquiry, leading us to this "aha" moment of gnosis which Holdrege speaks of. McGilchrist's theory proposes that the right and left hemispheres of the brain each offer a different version of reality - both authentic and valuable, but both conflicting (McGilchrist, 2009: 5). As mentioned in the Introduction, it is the right hemisphere which perceives wholes, whilst the left sees the parts. McGilchrist explains:

If one had to encapsulate the principal differences in the experience mediated by the two hemispheres, their two modes of being, one could put it like this. The world of the left hemisphere, dependent on denotive language and abstraction, yields clarity and power to manipulate things that are known, fixed, static, isolated, decontextualised, explicit, disembodied, general in nature, but ultimately lifeless. The right hemisphere, by contrast, yields a world of individual, changing, evolving, interconnected, implicit, incarnate, living beings within the context of the lived world, but in the nature of things never fully graspable, always imperfectly known. (2009: 174)

Recall that the right hemisphere is the holistic one, and suddenly we find ourselves faced again with the idea that 'wholeness' is ever-elusive, never quite able to be held.

However, in the spirit of holism, McGilchrist states it is through the combined workings of both hemispheres together that we can truly encounter 'wholeness'. He writes:

What is offered by the right hemisphere to the left hemisphere is offered back again and taken up into a synthesis involving both hemispheres.... In each there is a progress from an intuitive apprehension of whatever it may be, via a more formal process of enrichment through conscious, detailed analytic understanding, to a new, enhanced intuitive understanding of this *whole*, now transformed by the process that it has undergone. (2009: 206).

In simpler terms, we must allow the right brain to form its initial intuitive perceptions before the left examines the phenomenon of observation more closely and analytically, and then weave these two kinds of understanding together to perceive the whole. It is perhaps this kind “synthesis” that Goethe was trying to achieve during the processes of his enquiry, although he was probably unaware of how this might manifest in the brain.

Henri Bortoft (1985: 291) explains why ‘wholeness’ is so difficult to perceive in our ordinary states of awareness. He states that when we are in our early infant stage, we are in a *receptive mode* which is intuitive, holistic, and gives focus to the sensory and perceptual; it primes us for ‘taking in’ the environment. However, as we grow and begin to explore the physical world, we develop an *action mode* which brings the ability to discriminate, analyse and divide the world up into objects. In terms of McGilchrist, we might therefore envisage that when we are born our right brain is dominant, but as we age, our left brain takes precedence. McGilchrist suggests the left hemisphere became ever more dominant during the cultural shift of the Enlightenment (2009: 329), so perhaps the Enlightenment was merely enhancing and institutionalising a process we were already prone to, but which was once less pronounced. Bortoft explains that as a result of this *action mode* becoming superior, “we are well prepared to perceive selectively only some of the possible features of experience”, and warns that “since we are not aware of our own mode of consciousness directly, we inevitably identify this world as the only reality” (1985: 291). This may go at least some of the way towards accounting for the success of material philosophy and left-brained ways of thinking.

Religious studies professor Jeffrey J. Kripal recounts the case of brain anatomist Jill Bolte Taylor, who suffered a stroke which shut down her left hemisphere (2010: 259-261). Though this was potentially a tragedy, it gave Taylor the rare experience of perceiving the world through only the right brain, without input from the left. As her left brain reawakened over the following months, Taylor reported herself alternating “between two distinct and opposite realities: the euphoric nirvana of the intuitive and kinaesthetic right brain, in which she felt a sense of complete well-being and peace, and the logical,

sequential left brain" (Taylor, 2008: cover flap). Like McGilchrist, Kripal describes the right brain as being intuitive, spontaneous and imaginative, and the left as dividing, dissecting and analytical, but what Kripal also picks up on is Taylor's use of 'religious' language as the only means by which she could explain her experience of the unmoderated right brain (Kripal, 2010: 259-260). Taylor writes: "my consciousness shifted into a perception that I was at *one* with the universe. Since that time, I have come to understand how it is that we are capable of having 'mystical' or 'metaphysical' experience - relative to our brain anatomy" (2008: 3). So in conjunction with being holistic, it appears the right brain may also be responsible for the profundity of spiritual or religious experience - such as the way in which Goethe, myself and (I am sure) others like us experience nature.

For Kripal, being holistic is not just about combining the functions of the right and left hemispheres, but bringing the experiences of the mystical or religious together with the those of the rational and objective. He describes this in terms of a 'gnostic classroom' in his own field of religious studies, in which he proposes we combine our faith in our spiritual practices with our ability to think critically about them (2007: 22-24). In this way, Kripal states we can: "[derive] reason from faith, and [fuse] faith and religion into a deeper gnosis that appears to be much more radical and potentially transformative than any social-scientific or purely rational method" (2007: 23). Kripal's aspiration here seems remarkably akin to Goethe's wish to experience 'wholeness'; both seem to desire the attainment of a deeper understanding, reaching beyond the physical into a spiritual appreciation of the world.

Rupert Sheldrake concurs with Kripal that the religious element of human existence can be hugely important - both to understanding the world, and to our health. He reports that religious traditions encourage us to be grateful, and have been demonstrated to "confer benefits that include better physical and mental health, less proneness to depression, and greater longevity" (2017: 20). In addition, he notes that the idea of reconnecting with the "more-than-human-world" is common amongst spiritual traditions, as is "[connecting] in spiritually meaningful ways with plants" (Sheldrake, 2017: 21).

With this in mind, I feel Goethean Enquiry and the search for 'wholeness' might be as much a spiritual endeavour as it is an academic one. Certainly for me, this is the case. Goethe offers us an alternative means of knowing the natural world which, if we want it to, is suddenly permitted to retain its magic and its divinity. It is a means of learning nature which not only teaches us about it but connects us with it, instilling us with both respect and a deeper understanding - an understanding of nature's 'wholeness', and perhaps even our own place within it.

**CONCLUSION: 'WHOLENESS' IS IN THE EYE OF THE BEHOLDER**

Upon opening this essay, I asked: when it comes to apprehending the natural world around us, do we really grasp it as it presents itself to us, in its completeness? My conclusion was that we do not. Goethe, however, offers us the olive branch with which we might come to know the world differently, in a deeper and more meaningful way.

In this exploration of what 'wholeness' can mean and how we might encounter it, I have discussed several different authors, all of whom can be brought together to compliment and enhance each other's ideas. However, it is interesting now to note the differing approaches each takes. Goethe saw divinity in the natural world, and this was fundamental to his perception of it. However, notice that many of the academics and writers with whom we might explore Goethean Science and 'wholeness' do not mention such a notion. Iain McGilchrist and Henri Bortoft are philosophers of science; both are incredibly poetic writers but predictably neither ever mentions divinity or the spiritual. Similarly, biologist Craig Holdrege writes emphatically on the role of imagination in encountering 'wholeness', but his enthusiasm comes from an ecological interest in respecting nature, not a religious one. It is only Jeffrey J. Kripal and Rupert Sheldrake who recognise that interaction with the divine can take us into a deeper appreciation of nature.

German physicist and philosopher Werner Heisenberg once wrote: "we have to remember that what we observe is not nature in itself but nature exposed to our method of questioning" (Heisenberg, 2000: 25). In other words, when we attempt to understand nature, our perception is shaped by the lens we see it through. Each of these authors can offer us ways into 'wholeness', but each is limited by their own background, education and perspective. Our modern way of knowing is highly dominated by the material narrative, so unless one has a deeply religious sensitivity towards the world - as Goethe, Kripal and Sheldrake do - then it can be immensely difficult to understand 'wholeness' in the way I have approached it in this essay. We are all limited in our understanding by how far we are able or willing to go.

However, whatever our standpoint is in relation to Goethean Science, the most important thing is that we approach it openly, without preconceptions. Whilst Holdrege might not agree with my thought that Goethean Enquiry could be seen as a spiritual practice, he does describe it as a “path of conscious development” (2005: 30). In searching for ‘wholeness’, we must be open to the possibility that we might become changed by what we find. Holdrege writes: “engaging in this process we discover the ‘limitless’ nature of connections and relationships in the world but at the same time our potential to continually grow and adapt ourselves to new, more adequate ways of knowing” (2005: 30). Spiritual or not, encountering ‘wholeness’ can transform us, and we must be open to adapting what we think we already know.

Part of our transformation comes from reconnecting with nature through our study of it, and a newfound perspective which is gifted to us as a result. Once you have undertaken Goethean Enquiry, Holdrege explains:

You meet [nature] with expectation and interest, wondering what else it has to show you. And this attitude begins to inform your overall orientation... Any other plant, beetle, or bird you see appears immediately as a riddle and not a thing. You know that each carries within itself... a whole, unique world that's just waiting to be disclosed. (2005: 46)

Nature suddenly ceases to be a thing, and becomes a living being worthy of reverence, respect and understanding. And as Holdrege does not approach Goethean Science from a religious perspective, it is clear the same can be true whether or not ‘wholeness’ contains something of the ethereal for the enquirer.

We will all approach ‘wholeness’ differently, and the authors explored here can all provide us with the tools for endeavouring to understand it. It is simply up to us what we do with them, and how deep we wish to go. I find I cannot merely approach ‘wholeness’ from the perspectives of McGilchrist, Bortoft and Holdrege because for me they only go halfway. I require the additional insights of Kripal and Sheldrake, and Goethe himself, to carry me towards that deeper, spiritual quality of the ethereal I see in ‘wholeness’, which is always in flux and just out of reach.

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