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Reflections on the Mystery of Consciousness[1]

Gregory F. Tague, Editor

Trying to define consciousness is like describing how a cloud feels. It's organic matter but yet not. One needs a brain for consciousness, which resides in neural matter; but how are those electric connections a tangible unity? Likewise, is a swarm of bees an organism with consciousness? To be conscious entails what neuroscientist Antonio Damasio (1999) has called the feeling of what happens. What is that sensation and is it only for humans? Some might minimize the biology of consciousness to emphasize what they see as its nonphysical spiritual components. We all have and experience consciousness, but it's not so easy to compartmentalize with a label. Consciousness is not a fixed form like the notion of species before Darwin (1859) but a property both individual and social in flux. Without misreading E.O. Wilson (1975), is consciousness via sociobiology merely a way to perpetuate DNA? Where would Freud's notion of the unconscious fit into such a discussion, or William James' concept of streaming consciousness, or Jung's idea of archetypes and the collective unconscious? This is to say nothing of evolutionary psychologists who talk of cognitive adaptations (Barkow 1992) or those who query the role of group cultural evolution on individual consciousness (Richerson 2016).

Clearly, once we move away from neurobiology any conversation about consciousness seems to raise more questions and theories than answers. All lines of inquiry about the origin and nature of consciousness cannot be followed in this thumbnail sketch or in this issue. I once tried defining consciousness thus: distinct senses and sensation; spontaneous, internal, personal feelings; immediate public, shared emotions; innate instincts rising and falling; factual, intellectual, and emotional memory; short and long-term memory; imaginative projections whether planning, goals, or fantasies; what one chooses to attend to and focus attention on emotionally or intellectually; and subjective random, ephemeral thoughts (Tague 2014). There's a lot going on in our heads at any given moment, even in the default mode of autobiographical self. The cloud of consciousness is a means by which we can connect with other people and nonhuman beings, attempting to participate in their awareness of life through our own strangely incomplete thoughts and churning feelings.

Like many of the writers in this issue, as an interdisciplinarian I've thought long and hard about consciousness, from literary, philosophical, and biological perspectives. Let me echo in this and the next three paragraphs some words from my discussion in *Art and Adaptability* (2018) where the subject of consciousness figures prominently. As an evolutionary adaptation, humans are not the only creatures with consciousness. In fact, for neurobiologist Todd Feinberg and biologist Jon Mallat (2016) consciousness is ancient in origins. They trace its roots to about 500mya when the first fish-like vertebrates evolved an internal experience about their relations with the external environment. These were very early mental images and memory enhancements in sensation or subjective feelings. While there can be consciousness without emotion, of course there is sentience in consciousness. Consciousness is not necessarily about intelligence but subjective experience. Early forms of consciousness do not include reflective thought or theory of mind, which come later. Contrary to Feinberg and Mallat,

John Eccles (1992) places the origin of consciousness in mammals at about 200mya. Whereas Feinberg and Mallat find consciousness originating subcortically, Eccles does not. Did those earlier mammals live in a mindless world?

We could say there are two types of consciousness (Butler, et al. 2005). There's primary or sensory, where mental images are only in the present with no understanding of another self in different time. In higher order consciousness there is personal awareness of being aware along with a sense of another person in the past or future. Butler is clear that complex cognition is not a prerequisite for consciousness, which might simply be an underlying requirement for higher cognition. Perhaps subjective consciousness evolved in phases over time as the central nervous system developed objectivity. Anatomical neurons are responsible for conscious thought in cerebral neurons. There is no color or shape or pattern in neurons. Our subjective experience makes qualities of color and shape, which are not specifically patterned in neurons. Interestingly, behavior stems from the billions of neural firings of which we are physically unaware.

How did consciousness evolve and why are complex cognitive processes above consciousness so difficult to reduce? Is consciousness matter or not? In a playful twist Annie Dillard (1977) suggests there's a question of "mind under matter." Indeed, no matter no mind? According to Feinberg and Mallat (2016) there are evolutionary stages of consciousness:

1. Biological aspects that cross all species.
2. Reflexes or a nervous system without sensory consciousness.
3. From these early stages and reflexes arose attention.

Oversimplifying greatly, the developing pattern looks like this: simple sense began to bundle with other senses, mental representations, and reflexes to form awareness. Embodiment or the wall between outer/inner slowly evolved. Prior bits of attention, e.g., regarding predator avoidance, amassed and became a selective filter. Consciousness is an embodied process, not really a structure, but needs the physicality of a brain to exist. From its early stages, consciousness was driven by awareness and attention. Intersubjective sharing of thoughts and then, later, theory of mind became important advances in consciousness. Nevertheless, Chet Sherwood, et al. (2008) date theory of mind back to 8mya in a common ancestor shared with chimpanzees. Indeed, there has been boundless time for consciousness to evolve into its kaleidoscopic manifestations.

Feinberg and Mallat (2016) ask why in the Cambrian period of 560-520mya simple creatures like worms evolved awareness. For one, predation pressure selected for survival tactics. Attention was likely selected for as a more complex nervous system was needed for food foraging. Human and ape theory of mind is an extension of strategies for social competition like predation and food sourcing. Other species evolved predatory body parts, or predator protection, and early hominins evolved psychological strategies to social pressures, whether in competition or cooperation. Likewise, food sharing would be implicated in intersubjective thought and feeling. The energy costs of evolving advanced mental functions were high, so consciousness (however defined) was an important adaptation for survival and reproduction. Today, we evolve more in terms of cultural evolution than through biology, evidenced in the high price we place on all degrees of social, artistic, and even political consciousness.

Brain scientist Christof Koch (2012) sees consciousness consisting of physical connections in the brain evolved over great time in response to all kinds of selection pressures. This does not mean that consciousness is a well-wrought urn. In fact, forms of consciousness according to these terms probably exist in many carbon based life forms. Neuroscientist Walter Freeman (2006) describes consciousness as a *hurricane*, and Semir Zeki (2003) characterizes consciousness as *disunity*. In spite of how well the human mind has evolved, there are disruptive rudiments to the complex networks that give rise to consciousness. Where some see consciousness as a tangled tissue of clouds, a neo-Lamarckian like J. Scott Turner (2017) might say consciousness is a vital force of purpose that has helped organisms reach unifying complexity intentionally. I'm not quite convinced of that notion or of comparisons of consciousness to a computer's logic board. Nonetheless, while in process consciousness can be a confused mess, it can act as a unifier of thoughts, feelings, and emotions.

In a Darwinian sense, and roughly echoing John Dewey (1909), whether human or animal consciousness seems less a matter of chance but neither completely a design; it's a sum of parts where the net result has a beneficial effect. Broadly speaking, while the brain can generate the ability for consciousness, how consciousness manifests itself and changes is determined by the individual experiencing something (Tague 2016). Comparative psychologist Sue Savage-Rumbaugh (2000), who spent decades working with nonhuman great apes, says that the brain manipulates consciousness. So there's certainly a cloud of mystery about the origin and precise composition of consciousness across species or even among human individuals.

What is any conscious experience like, philosopher Thomas Nagel (1979) might ask. Humans look for reasons where there simply might be an evolved instinct to be conscious on an autonoetic plane (spatial and temporal awareness). In this type of consciousness a great ape, for instance, would become detached from the present and consider the past to imagine events and actions in the future. Far-fetched? Not really. Nonhuman consciousness occurs in large part because of one's body in nature, a sort-of biotic gestalt. There's an eco-psychology in how one socializes, forages, eats, and raises young in her ecosystem (Tague 2020). For us, theory of mind means trying to read another's thoughts; for a nonhuman being, the ecosystem is "read" as part of her *Umwelt*. Have we humans lost that connection to earth when we talk about consciousness?

According to the Oxford English Dictionary, early uses of *consciousness* were confined to internal or mutual knowledge, especially in terms of conviction or duty. How does consciousness build an individual mind (Tague 2014)? Since the scientific revolution, our understanding of consciousness has broadened and deepened to the point where researchers now muse over the question of "consciousness" in trees. Are there, then, "minds" in organisms without a nervous system? Is a computer capable of consciousness and mind making? Some thinkers, like David Wood (2020), Yuval Harari (2017), and Peter Swirski (2013), are already debating these questions. Some theorists push the boundaries yet further. While she does not speak exactly in terms of consciousness, philosopher and medical doctor Marjolein Oele (2020) explores shared

affectivity and becoming in the material world through a community of humans, plants, animals, and even the soil by virtue of our ontogenetic skin.

Scholars across disciplines are assembled in these pages to ruminate briefly on the subjects of cognition, intelligence, emotions, awareness in poetry, storytelling, symbolic art, theatre, spirituality, androgyny, animals, the human mind, mindfulness in education, and intentionality in consciousness. We are confident that what's offered here can provide a portal of entry into a fascinating interdisciplinary field of study.

Notes

1. *The Mystery of Consciousness* is the title of a book by philosopher John Searle, who engages other consciousness philosophers like David Chalmers and Daniel Dennett, published in 1997 by The New York Review of Books. Searle writes: "All of our conscious life is caused by...lower-level processes, but we have only the foggiest idea of how it all works" (4).

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Here, in the gloaming…

Wendy Galgan

for Grace Schulman

Here, in the gloaming,
two goldfinches visit the feeder.
A mated pair, they wait for each day's
hurly-burly to end. Not for them
the flutter and whirl
of nuthatch, cardinal, and chickadee.
Not for them the chittering squirrel-clan battles,
the growl and snap of warring chipmunks.

Only after the animals leave,
after the titmouses and phoebes fly away,
will the male finch – round and yellow
as a child's crayoned sun – glide down
from the tallest pine
to land atop the feeder pole.

He waits there, head cocked,
for a long moment,
offering himself as bait
for the young hawk who hunts this island,
until he deems it safe and
trills his mate down to join him.

The breeze has died.
No boat engines sound from the river
beyond the copse of maples, oaks, and birches.
No traffic passes in front of the house.
No voices carry from the pond across the street.

From up here on the back deck,
I can hear the rustle of the finches' wings,
the soft crack as the birds break open sunflower seeds.
The pileated woodpecker's sporadic "tchur, tchur, tchur"
sounds from the trees, comes between his sharp
tap-tap-tap-tap-tap on the far side of a young maple.
As the light begins to fade to heather-purple,
the church bell on Barter's Island sounds across the water.

The twilight deepens and the sturdy Nova Scotia roses,
bright blooming and fragrant,
show pink against the deepening light.
Skittish mourning doves nestle beneath the rosebushes,
their gray feathers fading into the twilight
while the white markings on their tails
glow nearly as brightly as the roses above their heads.

The decking beneath my bare feet still holds the day's heat,
but as the sun drops further behind the trees,
the air on my bare shoulders and legs cools rapidly,
more so as a light breeze picks up, bringing with it
the scent of grass and dirt, of the swampy mud
down at the bottom of the backyard.

Quiet movement through last year's fallen leaves,
and a young red fox emerges from a group of oaks.
He lifts his snout, sniffs, turns and looks
directly at where I sit in my rocker, then
shakes himself from head to tail
and trots to the feeder.

The goldfinches keep to their perches
as the fox settles on his haunches and
begins to eat the cast-off seeds on the ground.
All of us – birds, fox, me – exist together,
quietly, moving very little,
here in the gloaming.

The Fiction That Fiction is Fiction

Michelle Scalise Sugiyama

> All tribal myths are true, for a given value of "true."
> - Pratchett (1998)

Several lines of evidence indicate that storytelling is an ancient part of human experience, pre-dating the transition to agriculture and the invention of writing (Scalise Sugiyama 2005). This tells us that storytelling emerged in a hunting-and-gathering context, and was originally oral. Regardless of whether it is an adaptation or a cultural invention, storytelling is a universal human behavior (Brown 1991), and its pervasiveness begs the question: what role does this behavior play in the life of our species? The antiquity of storytelling indicates where we should begin looking for answers: the question of why humans tell stories is a question about why *hunter-gatherers* tell stories. On this point, many foraging peoples characterize their story traditions as "teachings," which suggests that stories transmit useful local knowledge.

This hypothesis is in keeping with the fact that, for most of their existence as a species, humans have lived in oral cultures, transmitting their accumulated wisdom viva voce. For novices, learning from others is believed to greatly reduce the costs and dangers of learning through firsthand experience (Boyd et al. 2011). However, it is not without risk: from the perspective of the receiver, a major problem posed by social learning is assessing the reliability of transmitted information. Fictional narrative, involving the conscious transmission of counterfactual information, is a glaring example of this problem. If forager story repertoires are teachings, we would expect them to consist of factual accounts. Yet the vast majority of narratives in forager story repertoires are myths, and as such are peppered with counterfactual propositions. We are thus faced with a seeming paradox: how can fiction transmit truthful information?

Barber and Barber (2004) provide a cogent answer: a story's description of events, entities, or phenomena may be accurate even if its explanation for them is not. A fire origin story from the Kurnai of Australia illustrates this point. According to the story, fire was initially possessed by two women who refused to share it. The fire-tail finch resolved to steal it: he went to their camp, ingratiated himself with them, and was eventually allowed to handle the fire. At this point, he seized his opportunity and flew off with a fire-brand. The story concludes with the observation that this bird "is still called Bimba-towera, which means Shoot-out-fire. The red spot on his tail is where he carried it" (Massola 1968:81). Here we see that, although the story's explanation for the bird's markings is counterfactual, the description of them is not. Thus, the story provides information that is useful for identifying this species.

Of course, activation of this rubric depends on prior recognition that a story contains counterfactual elements. If listeners do not understand this, they might assume that all of the story content is factual. Thus, given the potentially high costs of acting on unreliable information, we would expect oral narrative to exhibit mechanisms that indicate the degree to which the information being reported can be trusted. On this point, oral narrative exhibits several puzzling, seemingly disparate phenomena that take on new

significance in light of the reliability problem posed by social learning. The first of these is the concept of Distant Time (Scalise Sugiyama 2017a). Across forager societies, a distinction is made between stories of the distant past (i.e., what Western culture characterizes as myth) and stories of the recent past (i.e., oral history). The period in which myths are set is known by various names: "Myth Time" is a common etic formulation, while "Distant Time," the "Time of the Ancestors," the Dreamtime, and the time "when the animals were people" are examples of emic formulations. In the Distant Time, the world was different than it is today and events occurred that are no longer possible. A chief difference is that animals had the capacity for speech, lived in settlements, and engaged in human practices such as tool-making, dancing, marriage, and warfare. Many of the animal-people also had supernatural abilities, and used them to transform (Scalise Sugiyama 2019) the world into its present state. Thus, stories set in the Distant Time are understood to contain some information that, while true in the distant past, is no longer true in the present.

These features provide a heuristic for differentiating Distant Time stories from historical narratives: because talking animals and transformations are not part of the present world, stories that exhibit these features clearly belong to the former category. However, reliance on one means of making this distinction is risky, which brings us to another widespread feature of forager narrative: formulaic openings (Scalise Sugiyama 2017b). Distant Time tales typically begin with a stereotyped expression, commonly translated as "long, long ago," which signals that the story events occurred at an indeterminate point in the ancient past. (This is akin to the "Once upon a time" of European fairy tales, which, like forager narratives, were traditionally oral and may have served a pedagogical function.) In contrast, forager oral histories often have a more specific temporal framing. For example, a Plains Cree narrator begins, "A certain old man whom I am old enough to have known, used to tell this story." He later identifies this man as his uncle: "Twin-Buffalo, he is the one who had this experience; my mother's brother was this old man" (Bloomfield 1934:149-151).

Another recurrent feature of Distant Time stories is their distinctive use of evidentials. These are grammatical and other linguistic features that indicate whether evidence exists in support of a proposition and, if so, the source of that evidence. "Source" refers to the means by which the information was acquired—whether the speaker witnessed it, inferred it from evidence, or heard it from someone else. Significantly, all languages have some means of communicating this information (Aikhenvald 2004). In roughly 25% of languages, this is obligate—that is, the language contains grammatical structures such as suffixes and particles that indicate how speakers learned what they are reporting (Aikhenvald 2004). Athabaskan languages, for example, have three forms: one indicates that the information is based on personal experience, another indicates that it was inferred (e.g., deducing animal behavior from tracks), and another (translated as "they say" or "it is said") indicates that one is repeating hearsay (de Laguna 1995:291). Some languages have only two forms (i.e., firsthand and hearsay), whereas others have half a dozen (Aikhenvald 2004). In other languages, evidentiality is communicated through lexical means, such as modal verbs (e.g., ought, should), adverbials (e.g., supposedly, allegedly), and phrases (e.g., I hear that, it would appear that).

As a number of researchers have noted, the use of evidentiality spills over into narrative and, within cultures, not all types of narrative use the same form. This suggests that "the ways in which evidentials are employed may correlate with narrative genres" (Aikhenvald 2004:2; see also de Laguna 1995:291). For example, "In Tariana and Shipibo-Konibo, reported evidentials are used to describe traditional knowledge. However, in Tariana and in Tucano inferred is used in stories which relate important mythological events known to have left tangible traces in the surrounding landscape" (Aikhenvald 2004:18). Interestingly, Distant Time stories are characterized by the use of evidential forms that mark their content as hearsay: English and Spanish translations of such tales exhibit liberal use of the "they say" construction. Presumably, this is a reflection of translators' attempts to render the form of evidentiality used in the original language. In some cultures, the relationship between evidential use and genre is quite explicit. For example, the Dena word for their Distant Time stories, which use the hearsay form, is *kādōn-tsedeni*, meaning "In old times, *it is said*" (de Laguna 1995:290, emphasis added). The degree to which forager story genres are marked cross-culturally by the use of different evidential forms bears further investigation.

Yet another device used in forager storytelling is what might be termed a "testimonial." This is an assertion on the part of the narrator that they have seen the entity or phenomenon described in the story. For example, in an account of the adventures of the culture hero, Glooskap, a Penobscot narrator notes that the bones of a moose the hero killed "may be seen at Bar Harbor turned to stone. He threw the entrails of the Moose across the bay to his dogs, and they, too, may be seen there to this day, *as I myself have seen them;* and there, too, in the rock are the prints of his bow and arrow" (Leland 1968:65, emphasis added). This practice appears to corroborate the descriptive information presented in the narrative. Here, it attests that the rock formations are indeed shaped like moose bones and entrails, and contain depressions that resemble bow and arrow prints. It also indicates that these topographic features still exist (e.g., have not eroded) and can thus be used as landmarks.

The problems inherent in mixing factual and counterfactual information beg the question of why humans tell fictional stories in the first place. One answer is that real-world learning opportunities might not occur in a timely fashion; consequently, the requisite knowledge might not be acquired by the time it is needed. Fictional narrative bypasses this problem by enabling humans to construct learning opportunities, and deploy them as needed. Moreover, unlike real-world occurrences, fictional scenarios can be precisely tailored to the task at hand, better ensuring that the target knowledge will be acquired. Narratives with counterfactual elements may also be more attention-getting and memorable. Experiments show that representations that violate the assumptions of our natural ontological categories—such as talking animals or mountains made of transformed moose guts—are more salient and indelible than those that conform to them (Boyer & Ramble 2001). Attaching factual information to counterfactual representations may be a mnemonic strategy akin to the method of loci: in both cases, the information to be remembered is attached to familiar entities. The chief difference is that, in fiction, those familiar entities have properties that violate our assumptions regarding their nature or behavior. These associations also provide opportunities for refreshing knowledge, to further aid retention: every time the story of the fire-tail

finch is re-told, the listener is reminded of its markings, and every time a fire-tail finch is seen, the viewer is reminded of the story.

The pervasiveness of storytelling in human life, and the cognitive acrobatics it involves, make much more sense in the context of the information economy on which humans depend. One of the abilities that distinguishes humans from other species is the use of context-dependent information—information "that is only true temporarily, locally, or contingently rather than universally and stably" (Tooby & Cosmides 2000:57). This ability enabled *H. sapiens* to migrate beyond the region in which they evolved and colonize habitats to which they are not adapted. The down side of this development is that humans are heavily reliant on knowledge that is specific to local conditions. A danger of this dependence is that information may be unwittingly applied outside the scope of conditions under which it is relevant. Tooby and Cosmides (2000) argue that human communication systems include a suite of adaptations that address this problem. This suite includes scope tags—mechanisms that indicate the conditions under which the information in question is applicable. The features of forager storytelling delineated herein appear to perform a similar function. The concept of Distant Time and the use of formulaic openings may signal that content inconsistent with present realities is applicable only in the deep past. The use of the "hearsay" evidential form signals that the story events were not witnessed by the narrator and are thus less reliable than first-hand information. The use of testimonials appears to be another evidential form that qualifies or overrides the "hearsay" signal by identifying content that *is* applicable in the local environment.

While arguably an evolutionary boon for our species, the use of contingent information also poses a huge data management problem: information must be acquired, stored, organized, retrieved, refreshed, and transmitted. Storytelling can be understood as a response to this problem. Fictional storytelling has the added benefit of supplying "teaching moments" when real-world exemplars are lacking. On this view, fictional scenarios are simulations, not falsehoods: myths encode a wealth of factual information, if you know where to look for it.

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Common Origins of Consciousness and Symbolic Thought

Tom Dolack

In a cave in Sulawesi, Indonesia is a 15-foot wide hunting scene depicting diminutive (or are they far away?) human and human-like figures hunting pigs and anoas. Dated to at least 40.9k years ago, this appears to be the oldest known piece of narrative art (Aubert et al.). The human-like figures (therianthropes) are of particular interest. They are human in form, but some have what are clearly tails, beaks, or snouts. Representing figures that did not exist in reality, this mural is the oldest known symbolic representation on record. Perhaps not symbolic in the common usage of that word since we don't know if these creatures represented something entirely distinct (we frustratingly don't know what the ancient artist or artists were thinking), but the ability to map the features of one class of beings (animals) onto another class of beings (humans) indicates a type of cognitive function that is recognizably modern in its ability to combine ontologically distinct categories and create fictional beings. A mind that could depict that fresco could also contemplate the future, worship unseen spirits, tell tales around the fire, and fear death.

Of course, it is impossible to know with anything resembling certainty what those figures represented to the artist who drew them. That would require irretrievable information about the context in which they were made (Kissel and Fuentes). But clearly they meant something. They are located far in a system of caves that require tremendous effort to navigate using modern equipment. It boggles the mind to think of the efforts required to discover, return to, and light such a location using Middle-Paleolithic technology. These are not graffiti or chance sketches. It also should not be forgotten that aside from any symbolic or intellectual meaning they had, they were also an experience. The people who created and viewed these scenes *felt* something, and that feeling would have been an important aspect of their existence. What Deacon and Cashman (Deacon and Cashman) say about early religious behaviors goes for ar-

tistic experience as well: these pictures didn't just have a meaning, they meant something. It is the conscious experience of these works that I want to dwell on, because I will assume that such things would not have been created without such an experience. If we take for granted that the earliest artists created because it felt like something to create, and felt like something to experience those creations (an assumption we would readily make about art today), it can give us another means of tracking the origins of what we would recognize as fully human consciousness.

There are more connections between consciousness and symbolic thought than just simply that they are prerequisites for symbolic art. At least if we follow certain lines of thought in the study of consciousness, we can find intriguing similarities. I don't wish to postulate that the origins of the two mental capacities are identical, or that both emerged simultaneously. Indeed, it would be difficult to say not only when either started, but that there was in fact a discrete starting point. As with much of our evolution as a species (McBrearty and Brooks), the case would appear to be that our symbolic capacities and consciousness both evolved gradually over time as a coevolutionary process between genes and culture. That is to say that even when the requisite cerebral architecture and behavioral capacities had fully evolved, it still could have taken millennia to put those capacities to work. Observe how apes such as Kanzi and Koko can exhibit linguistic behavior under artificial circumstances well in advance of anything seen in their natural environment—clearly capacity and performance evolve on different schedules.

There are many approaches to consciousness—it has been something of a boom industry of late (Tononi; Graziano; Gazzaniga; Koch; Dehaene)—and they all likely represent some piece of the puzzle as they are not all mutually exclusive, but for my purposes I will start with the theory set forth by Antonio Damasio. Damasio's model as laid out in *The Feeling of What Happens* is based on mapping our environment. There are three levels to Damasio's system, which conveniently allows us to postulate three stages to the evolutionary development of consciousness. The first is consciousness of the self—a continually updated map of the body and its current state. The second level, core consciousness, expands to external objects and, critically, the relationship between the self and those "objects" (be they things, beings, memories, or thoughts). The series of maps that connect self with non-self form a narrative—which he defines as a "nonlanguaged map of logically related events" (Damasio, *The Feeling of What Happens* 184–85). This narrative, *is* our core self, and is not merely produced by it (Damasio, *The Feeling of What Happens*). The final level, extended consciousness, involves not just the individual snapshots of self v. non-self, but puts them all together such that the outside is envisioned both in relationship with the self at a given instant, and also in relationship to all past selves (the autobiographical self). In this way we can live within our personal histories, and not just in an eternal present.

This model is important for multiple reasons. For one, it places narrative prior to language; indeed, it makes narrative central to our very selves. And for Damasio the process of mental image-making is necessary for narrative, and therefore consciousness and the self. But images by themselves must be connected with a historical self, which is itself a series of images produced by the senses. "Images cannot be *experiences*, in and of themselves, until they are part of a *context* that includes *specific sets of organ-*

ism-related images, those that naturally tell the story of how the organism is being perturbed by the engagement of its sensory devices with a particular object […] *Subjectivity is a relentlessly constructed narrative*" (Damasio, *The Strange Order of Things* 159, emphasis in original). For my purposes, this ability to map non-self objects and then map the relationship between different objects, including the self, would be a prerequisite for symbolic thought, which we can define in these terms as the connection of non-contiguous object-maps. Symbolic thought, then, would seem to require the same kind of map transference as subjective experience.

Furthermore, the autobiographical self implies some level of mental time travel (Torrey 106). Once I have access to my past bodily states in addition to my past relationships with the outside world I can travel to the past in my mind, and I can translate that past into language to narrate things I have done, heard about, or just imagined. By recombining those elements of the past in new ways I can also make predictions about the future, or imagine things that aren't even possible (yet) (Damasio, *The Strange Order of Things* 97). By decoupling our mental imagery from both the self and the present moment, we became capable of recombining that imagery in novel ways. The therianthropes of Sulawesi are the result of a similar recombination of mental imagery and so put an upper limit on when that capacity evolved—although the lower limit could be, in fact likely was, much further in the past.

I don't wish to postulate that consciousness was necessary for symbolic thought, or that symbolic thought was necessary for consciousness. Neither of these capacities lies in a single place in the brain, but rather is instantiated in multiple places. In fact, the very nature of both consciousness and symbolic thought involves the bringing together of information from different circuits in the brain, which is a distinct trend in brain evolution in the hominin line. Selection pressure for any aspect of these systems would have affected multiple mental capacities simultaneously since it is common for microstructures of the brain to be involved in multiple functions. Thus it would be logical for both to have coevolved, with an increase in the subtlety of our autobiographical self and our conscious experience of symbolic imagery increasing their power and usefulness, and an increase in our abilities to map non-self to self increasing the sharpness of our conscious experience.

This particular approach has several advantages. First, it adds what for me has been a major missing component in discussion of the origins of art, narrative, and religion: the experience. Religion (broadly defined) and especially art (dance, drawing, stories, music, decoration, etc.) in some form are human universals; they exist in all human societies and clearly have for a long time. Children engage in artistic behavior automatically and with no prompting (Boyd 96). Why? Because we enjoy it. Without accounting for that experience, no explanation of the behaviors is complete. But this also turns things on their head: this approach might also help account for why these experiences exist at all. If the same self/non-self distinction that enabled core consciousness also enabled symbolism, and if the time travel of the autobiographical self enabled extended consciousness, we have a related function that can help explain how symbolic thought could emerge, even if its rudiments were of no practical use. Half a symbol is not a symbol, but weak consciousness would have been evolutionarily useful.

But the lived experience of symbolic narrative is only a proximate cause; we still need an explanation of the ultimate cause. While there is no shortage of theories about the origin of religion and narrative, theories that can postulate connections with better-understood phenomena can help sort through the theories that exist. For instance, if a capacity for symbolic thought underlies both narrative and religion, theories about the evolution of religion can be applied to narrative or vice versa. Narrative may have played a role in group cohesion that allowed successful groups to overcome others; or early religious narratives and rituals may have contained evolutionarily-relevant information (Sugiyama). Thus fields of work devoted to the origins of one aspect of our humanity could be opened up to the origins of another. Furthermore, an approach that can bring together symbolism, narrative, and consciousness can potentially supply a more satisfying story of what makes us uniquely human.

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Theatre and Consciousness—From Theory to Practice

Daniel Meyer-Dinkgräfe

Against the background of an upbringing in a theatre family and a PhD in theatre studies, I spent 23 years teaching drama and theatre in a UK higher education context, together with the related research activity into the relation between theatre and consciousness.

During those years, theatre practice was part of my profile to the extent that some 40% of the students' learning experience was through practical exploration of the theatre texts they learned about, across Western theatre history from the Greeks to the present. Our involvement in that practical exploration ranged from supervisory (being present in the space to ensure discipline, and so that students could ask questions if they encountered them) to more conventional directing (albeit with actors who were not professionally trained, so that the directing work included a large extent of training as well, with a much smaller number of contact hours at our disposal than in a professional actor training context or in a professional theatre context).

After completing my academic career in 2018, and a few months of narrating audio books through the amazon audible platform *ACX*, I took over a small chamber theatre in Germany (piccolo teatro Haventheater, Bremerhaven) as artistic director/manager. The theatre, which seats 57, was established in 2011 and has developed a core audience eager to attend productions of sophisticated comedy. Although the first season was cut short in mid-March 2020 due to closure of most of public life world-wide because of the Corona pandemic, the months until then provided sufficient material to fill these pages and for me to share and reflect on my experience of working as manager, actor and director in this professional context, and to do this, in the broadest of terms, in the context of consciousness studies. The discipline of consciousness studies provides an umbrella for a range of individual disciplines that have studied, in their own ways, how we think, feel and act, why we think, feel and act as we do, and what it feels like to think, feel and act as we do.

Planning a season

The theatre's core audience was grown and developed and had come to love and adore my predecessor, the theatre's founder, Roberto Widmer. On handing over to me at an event in March 2019, he asked this audience to give "the new kid on the block" a chance. At 61, I felt youngish among the core audience, and felt the need to both keep the existing audience but also to attract new audiences to the theatre. I scheduled a production of *The Persians* by Aeschylus to serve that purpose. It appealed to a smaller proportion of the core audience and attracted people who had never attended performances in that space before. All enjoyed what they saw: they said so explicitly after the performances they had seen, and promised to come again, which they did. One of the roles of theatre, both in sociological and psychological / spiritual contexts, is to break set patterns and expectations. The *Persians* production achieved that role. Season-planning also needs to take the financial aspect into careful consideration. I was able to fund the *Persians* to a large extent with my own money but cannot afford more

of that luxury. Future seasonal exceptions like *The Persians* need to be funded from income generated from past productions, developing to a stage where such work no longer represents an exception and can generate its own income to at least break even.

Selecting the cast

As a newcomer to the German theatre scene after an absence from it for more than 30 years, I had to rely on auditions. I had encountered one of those in the London fringe scene in 1993, and the experience in Germany in 2019 was not much different. As director I selected a short-list initially from looking through online profiles of actors on relevant job portals, in addition to specific recommendations by the state employment agency's section for theatre artists. Some of those shortlisted are available for an audition because they are interested in the part on offer, or the theatre, or the director, are available for the schedule of rehearsals and performances, and can accept the pay on offer. Others have to decline the invitation for audition because of one or more reasons related to the issues above. There is no objectivity in the decision based on an audition. It starts and ends with my gut feeling: does this actor fit my idea of the character, also in relation to other actors auditioning for the same role, and in relation to actors for the other characters who are auditioning or have been cast already? Only marginally less important for me: will I be able to work well with this actor over the intense 6-week rehearsal period? Intuition, gut feeling, is essential at this stage. It is probably to some extent inborn but can certainly improve with experience.

On stage

I have heard many people who are not actors talk about the essence of the actors' art as if they knew what it is like to be on stage. I have heard many actors talk of their experiences of this kind of assumed expertise. Being on stage as a child or teenager in a school production may well have been an important experience as part of growing up. However, it does not come close to the experience of a professional actor. Such assumption of expertise by laypeople is usually well-meant but still misguided. Would they presume to talk in that way about the skills of a dentist? Based on a thorough training, or in some exceptional cases, without such training, actors share the processes of learning the lines, often prior to the start of the rehearsal process, the rehearsal process, the opening night, and subsequent performances. Different training approaches both of actors and directors come together, hopefully merging into a fulfilling collaboration that leads to a production that is both of artistic merit and enjoyable in its execution. How actors approach their line-learning, the daily revising of lines, their own input to shaping the character, how they deal with stage fright, how they arrange their days to be able to achieve peak performance in the evening, when most people relax and wind down, how they arrange their meals to have their stomach at the right level of fullness or emptiness when they have to go on to the stage for a performance, is down to every individual actor. Juggling all those aspects of the profession and combining them with the aim of work-life balance is challenging. Each actor will define for him/herself which of those aspects they are dealing with run smoothly, and where further work may be necessary for improvement.

Directing

Directors would be well advised to be aware of those challenges, ideally from their own experience, so that they can integrate that awareness into their own thinking and working processes. It allows them to develop additional levels of sensitivity. Sensing why an actor is nervous at a certain point in the rehearsal process allows the director to address an emerging issue immediately, specifically and appropriately. The actor gains (further) confidence in the director and will open up further to the character and the director as a result. Such sensitivity is a highly desirable and beneficial quality in a director's tool kit.

An awareness of the interaction between the world of the play and the world of the rehearsal room also helps. When Willy Russell's stage play *Educating Rita* had its first productions in German in the early 1980s, Russell came over to see one of those productions, and gave a talk to the audience, facilitated by the university professor, Albert Rainer Glaap, who was in the process at the time of making a textbook of the play available for the German secondary school market. At the public event, Russell commented that the specific tensions characteristic of the interpersonal relationship between the two characters, hairdresser Rita and university professor Frank, tended to rub off, during rehearsals, on the actors playing those parts, especially if the actors had been cast, which they usually would have been, specifically in line with the assumed characteristics of their characters—Rita young, in the best, funniest sense, naïve, and wholeheartedly optimistic, and Frank older, disillusioned, and pessimistic to say the least. Having attended Russell's talk and remembering his warning allowed me to realise the nature of those very tensions developing between the actors I had cast in my 2020 production of *Educating Rita* in Bremerhaven, to soften the tensions and to enable the actors to make use of them creatively for the production.

This directing experience also allowed me to develop further in sustained practice an idea originally based on brief experience and theoretical consideration: tacit processes at work in the director-actor relationship. I quote one of the past experiences:

> In January 2006, I attended a symposium at the University of Exeter's Drama Department, entitled *The Changing Body: the bodymind in contemporary training and performance*. As part of the symposium, I attended a two-hour workshop-demonstration with movement artist Sandra Reeve. One of the exercises consisted of workshop participants teaming up in pairs of their choice. Partner A would sit at the side of the space observing partner B move in the space. As instructed by Reeve, A would then engage in movements him or herself, which B was expected to pick up and use as inspiration for the development of their own movements. After the exercise was over, A and B would discuss their experience, and swap places for a second run of the exercise, with A moving and B at the side, again followed by discussion. When I was moving, I occasionally glanced at my partner and intuitively integrated the inspiration from her movements into mine. When I sat on the side, I first engaged in movement, as instructed, and observed how my partner in turn integrated my suggestions into her movement. In the course of the exercise, however, I found myself no longer moving but, in a state of very high concentration and alertness, which felt, at the same time, very relaxed, suggesting just

> in thought. Seeing her lying on the floor, for example, I thought: "She could now start movements like a mermaid". Later, my thoughts became less fully expressed, turning from sentences to phrases (up, left, right, more gentle, etc.). To my surprise, my partner followed my mental suggestions one by one. We realized, in our post-exercise discussion, that she had different images from the ones I had; thus, what I envisaged as a mermaid movement was for her the swinging of a clock pendulum, but still, she had made the movements I had "wanted" her to make. I would rule out, with hindsight, the possibility that I "merely" observed some latent component of her position, which then triggered me to think "mermaid", for example, and then her latent component indeed developed into what I confirmed as "mermaid" (and which was "pendulum" for herself). What happened was that my thought (the cause) resulted in her movement (the effect). (Meyer-Dinkgräfe, 2006)

As with all tacit material, a conventional scientific context makes it hard to claim a cause-effect link, leaving claims for correlation at best. In my 2006 article, I develop a theoretical context for such experience. In working with actors now in 2020, again I found, less and less surprising, and very enjoyable, that, repeatedly, ideas I developed but which I did not utter in the direct rehearsal communication with the actors materialised in the rehearsal process.

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Raju's Journey From 'Self to Soul': An Exploration of Spiritual Blocks, Spiritual Growth, and Spiritual Liberation in R.K. Narayan's 'The Guide'

Divya Bhatnagar

Spirituality is a search for self, giving meaning to one's own life, and a link to bring an individual to inner peace even in adverse conditions. It is very difficult for an average common individual to be spiritually enlightened and mingle in the Absolute. Though nothing is impossible but to make things possible, one has to undergo many tests. It is evident that even the incarnations of God (be it any religion) in form of human had to undergo multiple tests to set a path for the immortal truth. The Hindu philosophy of the Advaita Vedanta, emphasizes the concept of "Truth" (the Supreme power, Omnipresent, or *Brahman*). Anything that is true has to be true in all the three periods of time: past, present, and future. The 'unreal' does not truly exist because 'truth, existence, and reality', are *One in All and All in One*. Human beings are a com-

plete entity of body, mind, and spirit. As compared to the body and mind, human spirits are beyond any time limitations, they are rather immortal. Spiritually elevated souls will see above the surface reality and will possess the potential to correlate the concept of "*Jivatman-Atman-Parmatman-Brahman*" i.e., having a spirit, soul, or a higher self that is aware of the interconnectedness of one's own spirit with the supreme reality. Raju in R. K. Narayan's "The Guide" (1958 novel in Indian English Literature) as an individual recognizes the illusion of the phenomenal world, acquires the knowledge of the ultimate reality—"*sat-chit-ananda*": pure existence, pure consciousness, and pure bliss seeking. His transformational journey from an ordinary railway tour guide to a spiritually liberated swami is not self-opted but an outcome of circumstances and his surroundings.

The story dwells around the theme of 'Guide". In the entire plot we see Raju playing the role of a real guide in different identities: as a "tourist guide", "manager or Rosie's guide", or finally as "Swami or Spiritual Guide". When towards the end of the novel, James J. Malone (Film and TV show Producer from California, America) asks Raju; "Have you always been a Yogi?" Raju's reply, "Yes; more or less" (The Guide 252) assures that the above-mentioned different roles are underpinned in one single thread of being a "Guide". His transformation from "Railway Guide" to finally a "Saviour Spiritual Swami" marks a complete shift from a material earthly world to a spiritually liberated world. As Swami, Raju's recognition of his self-actualization, self-enquiry, to self-introspection develops into a desire to sacrifice his ego and life for his followers.

Raju, the protagonist of the novel, is a tour guide in the fictional town of South India, 'Malgudi'. His entire journey of self to soul can be segmented into two worlds, first the material world and second the spiritual world. In the material world, Raju is entangled in the web of spiritual blocks. While the spiritual world observes Raju's spiritual growth finally helping him to attain spiritual liberation.

Right from the beginning of his career, Raju virtually becomes a prisoner of the *Arishadavargas*. According to Hindu theology Arishadvargas or the six internal enemies constantly work as spiritual blocks inside every human person. Every individual at one or another point in his/her lifetime faces them with great challenges or difficulties. These Arishadvargas are kama (lust or desire), krodha (anger), lobha (greed), moha (attachment), mada (pride), and matsarya (jealousy). They activate psychological sense of ego that results in selfish ends, what we see in case of Raju. Though born in a simple middle-class family of a shopkeeper, Raju has high ambitions. As an experimentalist, he tries to fit in any role that comes his way. He begins his career by sitting in a petty shop of his father, and on the set-up of Malgudi railway station he drifts from a shopkeeper to a book seller in his father's railway book stall, and later opts to be a tour guide. His aspiration for progressive living is not bad, but options that he selects work as harmful catalysts.

By narrating fabricated stories about the town and its surrounding, Raju impresses many tourists and become a famous tour guide far and wide. The pride or *mada* of being famous turns him to be more corrupt. In the course of time, Raju meets a tourist couple, Marco Polo and his wife Rosie. Marco is a stern, studious academician, and an

Archaeologist whose purposes lie in exploring the ancient cave paintings and temples scattered around the town with the help of Raju as navigator. On the other hand, Marco's wife Rosie, a beautiful, elegant Indian woman, is trained in Indian classical dance. Marco neither likes nor approves and he banned Rosie from pursuing her passion of classical dancing. Moha (attachment) instigates Raju to sense about Rosie's dissatisfaction for her husband while kama (lust or desire) in him, takes the advantage by persuading and flattering Rosie for her dancing capabilities. Encouraged by Raju, Rosie decides to accomplish her dreams and start a dancing career. Destiny plays its role by getting Raju and Rosie close to each other. On learning about their relationship, Marco abandons Rosie and Raju's mother disapproves their relationship. In krodha (anger) Raju elopes with Rosie. Raju becomes Rosie's business manager or impresario. With his marketing tactics, he establishes Rosie as a successful dancer. But in this process, he gets overpowered with the sense of self-importance and lobha (greed) for earning abundant wealth. He even tries to control Rosie's life. As an outcome of matsarya (jealousy) for Marco, Raju hides a letter Marco wrote to Rosie. But as stated in the Bhagvad Gita, your karma or actions done in the past affect your present state; Raju undergoes imprisonment of two years for forging the signature of Rosie.

He becomes a prisoner of these six internal enemies. His entire life gets in hold of destiny leaving him to lead a disastrous life. Without experiencing these *Arishadvargas* (the six internal enemies) in his material life, Raju could have never understood the importance of love and divinity. In order to move ahead on the path of self-realization, Raju will have to loosen the grip of destiny and adopt the three elements—selflessness, fearlessness, and forgiveness.

The plot progresses to its second part where Raju encounters a different world where his self-reflection, self-introspection, self-realization, and selfless service help him develop his *Spiritual Consciousness.* After completing his imprisonment, Raju did not want to go back in disgrace to Malgudi. Being uncertain of his future course of action, Raju sits on the banks of a river and takes refuge in an old temple near Mangal village. The saffron shawl on his body makes a village peasant, Velan take him as a Swami. Though not by choice but by force Raju decides to play the role of a Swami, which proves more challenging than what he expected.

Raju's external appearance and his impressive speech always help him to perform every role with perfection. He delivers sermons and discourses and also tries to solve the problems and disputes of the innocent villagers. Velan seeks his advice on the domestic problem of his younger half-sister who refuses to accept a matrimonial proposal he has arranged for her. Raju is indebted to Velan's generosity, respect, and faith for him. But he knows well about his ordinary being and pacifyingly utters:

> I know what your problem is, but I wish to give the matter a thought. We cannot force vital solutions. Every question must bide its time. Do you understand?... Whatever is written here will happen. How can we ever help it? We may not change it, but understand it… And to arrive at a proper understanding, time is needed. (The Guide 22)

Velan's half-sister, after the meeting, readily accepts the match arranged for her. Velan and his family credit this success to Raju. He suddenly finds himself asking, "Have I been in prison or in some sort of transmigration" (The Guide 23).

Raju's above statement shows his remarkable spiritual growth. He is able to look beyond and behind surface reality. He is made aware of the transcendent reality that there is a 'higher self' working and guiding him. His selfless service develops a sense of Spiritual Consciousness in him. With a raised inner consciousness, Raju's perceptual perspective begins to change, and he looks at the world differently. In his daily sermons, he discusses the necessity of education and soon with the help of village folks opens an evening school in the temple. These evening sessions turn Raju into a popular public figure giving advice and solving the villagers' problems. Further, Raju's reply to the village boy about the presence of crocodile in the river close to temple, "But I have never seen any crocodile" (The Guide 37), shows his higher spiritual level. It is all mind game; if the mind is clear and untroubled even a crocodile can do nothing.

When the village faces drought, all the villagers rush to seek their saviour's (Raju) spiritual help. This leaves Raju in a helpless state of mind. He assures them that everything will be ok and at peace. But inwardly he is not in peace. On learning about village fights about petty things, Raju's raised consciousness advises brotherhood amongst them. His message to the young village boy is, "Tell your brother, immediately, wherever he may be, that unless they are good, I'll never eat" (The Guide 103). This is incomprehensible for the innocent boy and he delivers the message as, "He wants no food until it is alright" (The Guide 105). People start believing him as a Mahatama whose presence is an assurance to their all-time safety. His act of penance is a mere sacrifice offered to God to purify the sins of others. At this stage, he is compelled to take a fast that may end the drought. Raju knows the truth about his prisoner turned Swami makeover. As mentioned earlier, 'unreal' does not exist and 'truth is the supreme reality'; Raju's raised consciousness forces him to confess his entire story to Velan. He did not want to build any false hope amongst the innocent villagers who consider him Mahatama… 'Mahatama Gandhi', as Velan says: "When Mahatama went without food, how many things happened in India!" (The Guide 106).

Raju feels the unshakable faith and gratitude of the villagers and is "moved by the recollection of the big crowd of women and children touching his feet" (The Guide 110) considering him as a Swami. His inner self, 'the soul', controls his escape temptation and he decides not to betray the simple faith of the innocent villagers. This "inner call" connects him with his supreme being and he is able to differentiate between 'escape' and 'faith'; 'unreal' and 'real'; 'self' and 'soul' (higher self). He agrees to undertake the fast to end the drought by bringing rains.

> For the first time in his life he was making an earnest effort, for the first time he was learning the thrill of full application, outside money and love… He felt suddenly so enthusiastic that it gave him a new strength to go through with the ordeal. (The Guide 246)

As we reduce our ego and selfishness, we are blessed with the divine love. True love is forgiving, enduring, and self-sacrificing. Raju's act of sacrifice transcends his inner

self to liberate from the barriers, and attain the state of being *Sat, Jyotir and Amrtam*—Existence, Enlightenment, and Immortality. His journey has a certain power that elevates his higher self and finally bless him with *Moksha* (spiritual liberation)—the state where *Atman* (self) meets the *Brahman* (absolute/supreme). Raju becomes an example for the whole human race who plays an important role in developing peace and spirituality.

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Frida Kahlo and Other Androgynous Women In the Wake of Joan of Arc

Carole Brooks Platt

> "*The Pain, the body, the city, the country. Kahlo. Frida, the art of Frida Kahlo...she is the Mexican Saint Sebastian, slinged and arrowed...Her reality is her own face, the temple of her broken body, the soul she has left.*" -Carlos Fuentes, Mexican novelist and essayist

Roughly 30 years ago, Joan Borsa (1990) published an article entitled, "Frida Kahlo: Marginalization and the critical female subject." Borsa objected to approaching Kahlo as a "tortured genius" whose "entire production was "intimate in scale and personal in nature" (p. 26). Hayden Herrera's (1983/2002) biography of Kahlo particularly dismayed Borsa, as it focused on the artist's "complicated medical and marital history" (*ibid*.), "revolving around love, marriage and pain" (p. 27). Borsa rightly criticized Herrera's referencing Kahlo's male lovers, while "de-emphasiz[ing] the number and significance of Kahlo's same-sex relationships" (*ibid*.). Borsa pointed out that the research of the time emphasized Kahlo's psychological "grief over her inability to have children," "her physical pain," and her "attention to adornment and the costuming of her body" (*ibid*., p. 34).

There is no doubt in my mind that Kahlo's art displayed, in large part, her grief, pain and adornment. In Kettenmann's (2002) book of Kahlo paintings, five depict dripping tears. In *The Broken Column* (1944), Kahlo paints nails all over her body and a broken architectural column representing her defective spine, along with tears (p. 69). A symbolic drawing of a disembodied crying eye in an otherwise "parched landscape" (p. 70) again reflects her sadness. Kahlo also depicts herself as a wounded deer, riddled with arrows, noting the failure of an operation on her spine (p. 73). Kahlo pro-

duced approximately 200 paintings, sketches and drawings. Of her 143 paintings, 55 were self-portraits (https://www.fridakahlo.org/).

In her most complex painting, *Moses* or *Nucleus of Creation* (1945), which Kahlo painted after reading Freud's *Moses and Monotheism* (1939), she portrays a weeping foetus in a weeping uterus inside a weeping universe where the baby Moses is now portrayed with the third eye of wisdom (p. 74). In *Sun and Life* (1947), she depicts a weeping foetus and a weeping third eye (p. 75). In *The Love Embrace of the Universe, the Earth (Mexico), Myself, Diego, and Señor Xólotl* (1949), Frida sheds tears in the arms of an Earth Mother figure whose sparse breast milk resembles falling tears. Further, Kahlo holds the adult Diego, with an oversized third eye, in her arms like a baby (p. 77). In perhaps the most telling painting, a full-face portrait, *Diego and I* (1949), Kahlo's long black hair seems to strangle her, along with the neckline of her dress, as a few tears drip down her face. Diego's painted face, again with a third eye, looms dominantly over her conjoined eyebrows (p. 78).

A similar painting, *Self-portrait Dedicated to Dr. Eloesser* (1940), shows a crown of thorns cutting her throat (p. 59). She almost never smiles in her self-portraits. Sadness, pain and loss dominate. In a letter to Carlos Chávez (1939), Kahlo said this:

> I have made portraits, figure compositions, also paintings in which the landscape and still life are the most important. In painting I found a means to personal expression, without any prejudice forcing me to do it. For ten years my work consisted of eliminating everything that didn't spring from the internal lyric motivations that impelled me to paint.
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> Since my themes have always been my sensations, my states of mind, and the deep reactions that life has been causing inside me, I've frequently materialized all that into portraits of myself, which were the most sincere and real thing that I could do to express how I felt about myself and what was in front of me. (Kahlo, 1939, in Zamora, ed. 1995, pp. 104-5)

Borsa laments the critical neglect of deeper issues in the corpus of Kahlo's work, with too much emphasis on her femininity, childlessness and adornment; yet, she herself neglects half the picture. As Joan of Arc was transformed while wearing male clothing and performing as a warrior, we might attribute Kahlo's exceptional artistic creativity to a similarly androgynous mind. In fact, noted Mexican novelist and essayist Carlos Fuentes, did just that. In his introduction to *The Diary of Frida Kahlo: An Intimate Self Portrait*, he described:

> Kahlo the young, disguised in manly clothes, a Saint Joan of the liberating culture of the Revolution, an armed footsoldier of the Mexican legions of Bergsonism... part of a group known as Las Cachuchas—The Caps—proud and defiant in their denim clothes and proletarian, urchin-like caps, making fun of all solemn figures...(p. 11).

It should be noted that in several early family photographs, Kahlo wears a man's suit rather than a dress, with her hair slicked back in manly fashion.

In her many self-portraits, Kahlo conjoined rather than trimmed back her thick black eyebrows and even darkened her faint black mustache. When Diego Rivera, her lover,

then husband, betrayed her with other women, Kahlo painted herself as a man, her long hair cut off and scattered around her. Whether a punishment aimed at Rivera, or a consoling return to androgyny, it is significant. Furthermore, while she may have previously worn traditional, full-length Mexican skirts to please Rivera, she was also covering her shorter leg, disfigured from childhood polio, that would eventually be amputated.

Clearly, the accident in which a trolley rammed her bus, piercing her uterus and making pregnancy difficult, had created a life of constant physical pain and prevented her from bringing a child to term. Yet, the horrible trauma, as well as her androgyny, may have geared her toward a prolific artistic response. Further, her strong political engagement, aligning herself with Marx, Lenin, and Stalin, also provided some remedial comfort. At the end of her life, lying in bed, she wore a plaster cast, on which she had painted a hammer and sickle, to reinforce her spine. Despite her wounds, both physical and mental, she was a strong, engaged Marxist and a highly regarded artist in Mexico, the United States and throughout Europe.

André Breton and the Surrealists adopted Kahlo as their own, even though she denied being a Surrealist herself. Her diary, written in different colored inks, with bizarre, seemingly autonomous drawings, is by far more Surrealist in inspiration than her hyper-realistic paintings. The latter depict her pain and could be considered a form of "self-destructive narcissism." There is no artistic beauty in the diary and its texts. While sometimes poetic, the entries are essentially a linear stream of consciousness. What is abundantly clear in her diary is her all-consuming love for Diego Rivera and her dedication to the Communist revolutionary movement.

Kahlo's infirmities did not inhibit her sexual exploits, with both men and women. She slept with the aging Stalinist Leon Trotsky and Julien Levy, the Gallery owner in New York, who had sold two of her paintings. These paintings were destined to adorn Fallingwater, the magnificent modern house built by Frank Lloyd Wright for the wealthy Kauffman family (Toker, 2009). Kauffman Jr. took the paintings, *My Birth* (1932) and *Remembrance of an Open Wound* (1938), to his apartment, but have since vanished. I visited Fallingwater, outside of Pittsburgh, PA; sadly, the Frida Kahlos were already gone. But the house was otherwise full of art. In line with this paper's thesis, Levy said Kahlo was "a kind of mythical creature, not of this world proud and absolutely sure of herself, yet terribly soft and manly as an orchid" (in Herrera p. 235). Her sexual proclivities were non-discriminatory. Men can also be androgynous creators. The highly prolific Honoré de Balzac, referred to himself as an "androgynous genius," with a "woman's heart" where he created androgynous characters in his books and was indiscriminate in his own affairs (see Robb, p. 260).

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Frida Kahlo does not stand alone as a bisexual creator; other women possessed androgynous minds propelling immense creativity. Virginia Woolf, who authored 27 books, claimed that psychological androgyny was essential to creativity. In *A Room of One's Own*, she states: "It is fatal to be a man or woman pure and simple; one must be woman-manly or man-womanly ... Some collaboration has to take place in the mind between the woman and the man before the act of creation can be accomplished" (Woolf, 1929/1957, p. 108).

Woolf too was plagued by a very traumatic adolescence, with the death of her mother, her step-sister, her father and a brother. These deaths led to her depression and nervous breakdowns. Woolf's book, *Orlando*, famously explored her relationship with Vita Sackville-West, whose fictional gender alternates from one chapter to the next. There is genius, not madness, in Orlando's sexual fluidity. Notably, Sackville-West (1936/1991) wrote a book, *Saint Joan of Arc*, which extols the genius of this androgynous French heroine. As Woolf says in her introduction, as written to Sackville-West, "But listen; suppose Orlando turns out to be Vita; and it's all about you and the lusts of your flesh and the lure of your mind" (Woolf, 1990/1992, p. vii). Ultimately, Woolf ended her own life by drowning, fearing another nervous breakdown.

The French writer, Sidonie-Gabrielle Colette, known simply as Colette, is another example of a prolific androgynous writer. According to a relatively recent biography (Francis & Gontier, 1998) her mother encouraged her to marry Henry Gautier-Villars, known as Willy. She married this 14-years-older syphilitic man in an open marriage. He encouraged her lesbian affairs, while collaborating with her on books. Colette appeared on stage in nude dances, but she was also known to wear tailored suits when off stage (*ibid*., p. 177). Colette famously wrote to the poet Saint-John Perse, "I have the privilege of being only halfway a woman" (*ibid*., p. 115), She was even called an "*homme de lettres*," ("man of letters"), due to her literary genius (*ibid*., p. XIII). She was so highly regarded that she "was the first French woman writer to be given a state funeral" (*ibid*., p. XIV).

The American poet, Emily Dickinson, wrote over 250 letters and poems to her sister-in-law, Susan Gilbert Dickinson. Adrienne Rich, although married with three sons, was a lesbian who wrote poetry, prose, and a book on the institution of motherhood. Anne Sexton, a gifted American poet who suffered from post-partum depression and claimed to have been sexually abused as a child, was also conflicted about gender and identified with Joan of Arc. In her poem, "Consorting with Angels," she wrote:

> I was tired of being a woman, / tired of the spoons and the pots, / tired of my mouth and my breasts.../ tired of the gender of things...Last night I had a dream... In that dream there was a city made of chains / where Joan was put to death in man's clothes.../ Then the chains were fastened around me / and I lost my common gender and my final aspect.../ I am no more a woman / than Christ was a man. (pp. 111-12).

Sexton committed suicide, possibly at the bidding of a dissociative other, an offshoot of her traumatized youth.

In brief, Gertrude Stein loved Alice B. Toklas. Hilda Doolittle, who used her initials, H.D., to camouflage her gender, was openly bisexual (Dotterer and Bowers, 1992, p.13). Marguerite Yourcenar loved Grace Frick, her secretary and companion. Yourcenar, who lost her mother ten days after birth, did not write as a woman. French novelist Jean d'Ormesson, author of forty books, director of the French newspaper, *Le Figaro*, from 1974 to 1979 and former Dean of the *Académie Française*, went so far as to dismiss the specificity of women writers with Yourcenar's admission to that exalted body.

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Thoughts on Marine Mammal Cognition & Consciousness

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Consciousness is an interdisciplinary topic that one often connects with philosophy, psychology, and neuroscience. We offer support for an additional and growing perspective investigating consciousness in the field of comparative cognition by looking across species, and we argue that it is not a uniquely human trait. In this paper, we will first broadly discuss consciousness, then argue for evidence across species, and lastly narrow our focus to the marine mammals as a group of interest.

What is Consciousness?

Currently, there is no agreed upon definition of consciousness but rather multiple, discipline specific, views. As stated by Miller (1962):

> Consciousness is a word worn smooth by a million tongues. Depending upon the figure of speech chosen it is a state of being, a substance, a process, a place, an epiphenomenon, an emergent aspect of matter, or the only true reality. Maybe we should ban the word for a decade or two until we can develop more precise terms for the several uses which 'consciousness' now obscures. (p.25)

For example, the field of philosophy uses a phenomenological definition of consciousness focusing on what it feels like from a first person perspective, especially one's sensations, thoughts and emotions [i.e., Nagel's 'what is it like' (see Nagel, 1974)]. In contrast, scientific fields such as cognitive psychology and neuroscience respectively, define consciousness as higher order mental processes (such as self-reflection, attention, planning, metacognition, or theory of mind), or search for neural correlates of cognitive behaviors (e.g., utilizing EEG and fMRI) (for a review of consciousness from a neuroscience perspective see Gazzaniga, 2019). A common view of consciousness is that the human species, *Homo sapien*, has it but all other species do

not. A lack of cultural understanding of other humans does not negate our assumption of their having consciousness. In fact, anthropologists working across cultures follow a "doctrine of the opacity of other minds" (Robbins & Rumsey, 2008) which argues that one can never truly know what is in the minds of others. Yet, unlike those that study the animal mind, anthropologists are not criticized for lack of evidence of consciousness in their subjects of study, because their subjects are human and we offer other humans this charity. Typically, our evidence of a conscious state in another person is the willingness to assume that others of our species, who act as we do, are also experiencing consciousness as we ourselves do. We do not have to rely on another's behavior alone, as we validate our assumptions through verbal/written/gestural language (though it should be noted that language is in itself a behavior). Humans can utilize language to talk about their own mental experiences to other humans, therefore providing the confirming evidence we use to feel confident in consciousness across our species. There are humans that lack linguistic abilities such as pre-verbal infants and non-verbal adults with Autism Spectrum Disorder or various other cognitive impairments, and those in altered states of consciousness such as during sleep, under the influence of drugs (including anesthesia), and various levels of consciousness post injury (e.g., coma, vegetative state, minimally conscious state).

It follows from above, that if language is required for consciousness to exist, then one could argue that pre-verbal and non-verbal humans are not conscious beings. While this may sound far-fetched, most of the twentieth century passed with a lack of a conscious experience of pain assumed for human infants (pre-verbal). This assumed lack of pain perception led doctors to operate on infants without analgesics until around 1987, when opinion changed in part due to a publication by the American Academy of Pediatrics (Boffey, 1987, as cited by Andrews, 2020, p. 27; Steward, 2015). So, if we consider human language, and/or being a human, the only scientifically valid evidence of the existence of a conscious state then we quickly lose the ability to study consciousness in any form other than via one narrow definition, and among a very small sample of organisms. This approach is theoretically stifling and statistically makes it highly likely that we will be committing a 'Type II Error', in which we fail to find something that does in fact exist.

Consciousness Across Species

Perhaps we can further the scientific study of this multifaceted and somewhat enigmatic concept. We can reject a dichotomous view and consider that there are various degrees of consciousness across taxa and therefore approach it as Darwin famously stated, "The difference in mind between man and the higher animals, great as it is, certainly is one of degree and not of kind," (Darwin, 1860, p. 424). If we are willing to remove the restriction of human language (and perhaps being a human) from a definition of consciousness, we can move forward to conceptualize it (to some degree and in some form as perhaps yet to be defined) as not solely endowed to the human species. To do this we look toward the field of animal behavior which is comprised of varied experts such as ethologists, zoologists, biologists, and comparative psychologists, (for a review of arguments for and against this cross-species and interdisciplinary approach, see Andrews 2011 and 2020). Overall, we agree with Andrews' and others' assertions that the study of behavior, minds, and consciousness can only bene-

fit from a rigorous scientific approach that incorporates an awareness of both anthropocentrism (attributing human characteristics and emotions to non-humans) and anthropodenial (rejection of the possibility of shared characteristics between humans and animals) (see de Waal, 1999; Andrews, 2020).

A significant challenge for those studying comparative cognition and consciousness is that one cannot be told directly by their subjects about their inner mental states and experiences. One must look for non-linguistic methods of communication to shed light on this area and the researcher then has the daunting, yet fascinating, job of learning about the inner workings of their animal subjects via converging operations and scientific inference utilizing varying and creative research methods. It should be noted that this process utilizes the same methods and rigor used in developmental research with pre-verbal infants and in various fields with non-verbal children and adults. We therefore argue for the following logic while interpreting data from animal research: If humans demonstrate ability/behavior 'X' and that is taken as an indication of consciousness, then other species that demonstrate ability/behavior 'X' should also be deemed to have consciousness. Then, using convergent operations, we can more soundly ascertain that these observed behaviors of animals do in fact stem from consciousness—or in the least, that the foundations for consciousness are in place.

Consciousness in Non-Human Primates

With this comparative approach in mind, and if one argues from a Darwinian perspective of continuity, we look from humans first to our closest relatives—the great apes [chimpanzees (*Pan troglodytes*), bonobos (*Pan paniscus*), gorillas (*Gorilla gorilla*), and orangutans (*Pongo abelii*; *Pongo pygmaeus*; *Pogo tapanuliensis*)]. Some primatologists have argued that the great apes are in fact conscious and sentient beings (see de Waal, 2016). While currently the degree, form, and quality of consciousness in great apes is up for debate, there does not need to be a dichotomy with human consciousness on one end and no consciousness on the other. There are many areas of non-human primate research linked to consciousness such as that investigating deception (Hare et al., 2000; Hare et al., 2001; 2006), grief (see special issue in *Primates*, 2020 with introduction by Anderson, J.R.), and empathy (see Yamamoto & Takimoto, 2012). However, we will not be discussing the non-human primate research in great detail and focus here specifically on areas that have also been researched in marine mammal cognition—the areas of metacognition and self-awareness. In particular, primatologists have thoroughly studied self-awareness via *mirror self-recognition* (MSR) and *Theory of Mind* (ToM). ToM is often discussed as 'mind reading' as it provides one with the awareness of the knowledge state of other individuals. Self-awareness emerges in humans at about 18 months of age whereas ToM emerges at around four years of age, and both are notably lacking in many individuals with autism spectrum disorder (Johnson, 1982; Spiker & Ricks, 1984; Tager-Flusberg, 2007).

While there are differing versions of the task, studying MSR generally consists of the 'mark test', which originated with Gallup (1970). In this test researchers place a visible mark (e.g., an odorless dye) on the subject that cannot be easily seen without the use of a mirror. The subjects are then exposed to a mirror and their behavior is recorded. The behavior of the marked animals is compared to their behavior on other days

with mirror access and no mark, or compared to a control group of subjects that were given a 'sham mark' (i.e., procedure of the marking without the dye). Evidence for self-awareness in non-human primates, as defined by demonstrating MSR with the mark test, includes chimpanzees (Gallup, 1970; Kitchen et al., 1996; Thompson & Boatright-Horowitz, 1994), gorillas (Posada & Colell, 2007), orangutans (*Pongo pygmaeus abellii*) (Gallup, 1982), pigtail monkeys (*Macaca nemestrina*) (Thompson & Boatright-Horowitz, 1994), and Rhesus monkeys (*Macaca mulatta*) (Rajala et al., 2010). One must note that the mark test is only one potential measure of MSR and therefore self-awareness. While it is the most commonly utilized method with both human and non-human subjects, it is not without criticism (see Gallup, 1994; Parker et al., 1994; Shumaker & Swartz, 2002).

ToM, or an awareness of others' mental states is often tested using the *false belief task* (FBT) with children. Participants are given a scenario (e.g., a puppet show and/or a story) and are asked questions about the thoughts and actions of the characters. For example, a participant (who acts as the observer) may hear a story about Mary placing an apple into a blue container on the table, but that when Mary leaves the room, Sally moves the apple into the green container. This scenario sets up a 'false belief' for Mary; she thinks the apple is where she left it (the blue container), but it is actually somewhere else (green container). The participant knows the truth (apple in green container), but Mary *falsely believes* the apple is where she left it (blue container). The critical test is to ask the participant where Mary believes the apple is when she returns. If the participant states that Mary will look in the blue container (where Mary falsely believes it is) then they have passed the FBT. They have indicated an understanding of another's mental state/knowledge that is different from their own. If the participant stated that Mary would look in the green container (where it actually is and which is the mental state of the participant) then they have not passed the FBT. In children, the FBT, and therefore ToM, is demonstrated around four to five years of age (Wellman et al., 2001).

Of course, when testing non-verbal subjects, such as animals, one must modify the task. Call & Tomasello (1999) did just that when they tested both human children, chimpanzees, and orangutans on a modified, non-verbal, FBT. The full details of the methodologies are beyond the scope of this paper, but overall, the task consisted of the subjects attempting to find a reward in one of two hiding locations (e.g., A and B). The subjects watched the reward being hidden, and an experimenter marked the location of the reward. In some trials the reward remained under the initial location (similar to Mary's apple staying in the blue container in the example above). During other trials, after the subject viewed the hiding of the reward in one location (say A), the experimenter left the room and the reward was moved to location B in view of the subject (similar to the apple being moved to the green container when Mary was out of the room). Next, the experimenter would come back and mark the cup they believed the reward was under (A). The subjects, (be they human or non-human) were then asked to indicate the location of the reward to receive it. They would be deemed to pass the FBT by choosing location B, where the reward actually is, therefore ignoring the information provided by the experimenter. Ignoring the mark by the experimenter indicated the subject had an understanding that the other person had a false belief about the location of the reward. The results of their study indicated that chil-

dren, but not the apes, demonstrated ToM by passing the FBT (Call & Tomasello, 1999). From here, a series of research studies progressed investigating ToM and the FBT among non-human primates. Changes in methodologies, making tasks more ecologically relevant to the species tested, and more deeply considering the operational definition of ToM from a less anthropocentric viewpoint have all lead to fruitful studies indicating that our closest relatives do in fact possess these cognitive abilities (see Call & Tomasello, 2008).

One such version of the FBT that took a more ecologically valid approach, and utilized the natural behaviors and dominance hierarchies of chimpanzees, was conducted by Tomasello and colleagues (2003). The methods allowed a subordinate subject to witness the hiding place of a food item in their habitat under two conditions. In condition one a dominant animal also sees the hiding place, and in condition two, he does not. The question becomes whether or not the behavior of the subordinate animal will change based on the knowledge state of the dominant animal. In other words, will the subordinate animal try to retrieve the food item in either or both conditions? Retrieving the food in condition two would typically lead to the subject being in poor social standing and the food taken away from him by the dominant animal. Therefore, due to the subject only retrieving the food in condition one, he was considered to have some form of ToM, or an awareness of the other animal's awareness (Tomasello et al., 2003). For further work on ToM and awareness of others' mental states in non-human primates see also Hare, Call, Agnetta, and Tomasello (2000), and Hare, Call, and Tomasello (2001; 2006).

Consciousness in Marine Mammals?

We now aim to extend our focus further away from the great apes (and primates generally) by turning to other species that have evolved within similar environmental pressures likely to select for consciousness (e.g., complex social structure), and that also have a strong research basis for 'conscious behaviors'—the marine mammals (whales, dolphins, seals, sea lions, walruses, polar bears, and otters). They are a theoretically interesting group to study, in part because they are evolutionarily more distantly related to humans than the great apes, yet research continues to unveil complex cognition in this group. Humans diverged from their common ancestor with other great apes 6-7 MYA, and from their common ancestor with whales and dolphins approximately 65 MYA (Browne, 2004). Some abilities previously thought to be unique to humans, and dependent on human language (see Hayes, 1991; Hayes et al., 1991), have been demonstrated in marine mammals. For example, California sea lions (*Zalophus californianus*) have demonstrated equivalence classification (Schusterman & Kastak, 1993) complex concept formation (Kastak et. al., 2001), and cross-modal transitivity (Lindemann-Biolsi & Reichmuth, 2013). This supports the argument that marine mammals may be an additional group of animals with which studying consciousness may be a fruitful line of research. Evidence for consciousness in marine mammals would support the idea that it can be found across a wide range of non-humans and may have a broad and more primitive evolutionary past than typically assumed. Perhaps consciousness (in some form) has evolved through convergent evolution in distantly related lines of primates and marine mammals. Similarities of natural history include that both are generally top predators, are highly social with com-

plex social groups, have long-term maternal care, and complex brains/nervous systems. Marine mammals are therefore excellent non-human and non-primate candidates for consciousness research.

While marine mammal cognition has included research subjects from all families of marine mammals, the primary subject used to investigate aspects of consciousness has been the dolphin. Therefore, the current discussion focuses on these cetaceans, especially since they have been utilized in studies somewhat comparable to those conducted with both human and non-human primates. Once again, we focus on the areas of metacognition and self-awareness (see also Harley, 2013). Self-awareness, as discussed above with primates, is typically investigated via MSR and the mark test. Marten and Psarakos (1994; 1995) were the first to look at MSR with bottlenose dolphins (*Tursiops truncatus*; henceforth termed dolphins). In their 1994 study, they used a modified version of the mark test which included marking the dolphins with zinc oxide (rather than hair dye), and petroleum jelly for the 'sham mark' control. They recorded, via video, the subjects' behaviors in three conditions: with a mirror, with a conspecific, and without a mirror or conspecific. They measured latency to approach the mirror, time spent at the mirror and their behaviors at the mirror. The data is difficult to interpret but overall the authors state that there was sufficient evidence of the dolphins using the mirrors to investigate themselves. One criticism is that the behaviors recorded when in front of a mirror, while including self-examination, also included social behaviors exhibited around other dolphins (e.g., bubble blowing and opening their mouths). The authors then conducted a second study (Marten & Psarakos, 1995) seeking to replicate the 1994 study as well as to improve the methodology and comparability of data across conditions. Two dolphins were presented with two conditions: a synchronous video feed of themselves (i.e., 'mirrored' video) and an asynchronous video (themselves but time delayed so behavior did not synchronize with video feed they observed). Dolphin interactions differed significantly across conditions. For example, they were more likely to contingency check in the synchronized video condition (e.g., present their markings to the camera/video). It should be noted that one dolphin's behaviors were more subtle than the other, illustrating significance overall in the study, but strong individual differences between subjects (Marten & Psarakos, 1995).

Taken together, Marten and Psarako's work (1994; 1995) concluded that the dolphins were using the mirror/video to examine themselves and therefore demonstrated MSR. Likewise, Reiss and Marino (2001) studied MSR and after an initial study with inconclusive results (Marino et al., 1994), claimed successful demonstration of MSR in dolphins (see Sarko et al., 2002 for further discussion/re-evaluation of the inconclusive data from the 1994 study). Reiss and Marino (2001) conducted their study using three conditions: dolphins were marked, sham-marked (control), or received no mark. Behaviors were coded as self-directed, non-directed, ambiguous, or social. The authors concluded that the dolphins used the mirrors to investigate their bodies, thus demonstrating MSR. This work is often discussed as the leading evidence for MSR in dolphins, but it is not without controversy. For example, there was an imbalance of mark locations with most being near the front and side of the body, and designated behavioral categories consisted of uneven observation options (i.e., more behaviors possible to be observed in self-directed versus social behavior categories). In 2001,

Delfour and Marten provided additional research on MSR in marine mammals. They worked with three different species which included five orcas (*Orcinus orca*), two false killer whales (*Pseudorca crassidens*), and three California sea lions (*Zalophus californianus*). Their methods were similar to the studies described above with mark and sham-mark conditions, as well as social and non-social conditions (i.e., presence or absence of other animals). Results from Delfour and Marten (2001) provided support for MSR in both of the cetacean species (orca and false killer whale) but not the California sea lion—though it should be noted that this study is still not without difficulties in data interpretation. Most recently, Morrison and Reiss (2018) investigated MSR with two young dolphins, in part to investigate the development of this behavior. In humans, MSR is not demonstrated until around 18 months of age and in chimpanzees it emerges between two and four years of age. Morrison and Reiss (2018) concluded that dolphins demonstrate MSR by seven months, but they note that this was the earliest age at which they were able to test the subjects and it should therefore not be considered the age of onset.

Interpretation of behaviors in MSR work is inherently difficult and especially so with dolphins as compared to primates, as they lack the same anatomy (e.g., hands to touch and explore the mark when looking in a mirror). The above described research with cetaceans is compelling, but more work is required to better distinguish if the behaviors are in fact self-referential. It is worth considering if a differing method may work best for investigating self-awareness in marine mammals (see also Delfour, 2006). Beckoff & Sherman (2004) state that MSR work is neither necessary nor sufficient for investigating what they term the continuum of self-cognizant behavior across species.

Another area of relevance, ToM, seems to have minimal research correlates as compared to that in the primate literature, though there are a few notable studies. The modified FBT from Call & Tomasello (1999) discussed above, was used by Tschudin (2001) with four dolphin subjects. The methodology was the same except for two aspects: the experimenter, rather than a marker being placed on it, tapped the reward location and the dolphin pointed with its rostrum to indicate its choice, whereas the apes touched the location choice with their hand. Tschudin (2001) found that all four subjects in this study demonstrated evidence of ToM. However, in 2006 he worked to replicate his findings with more experimental controls in place, and was unable to do so (Tschudin, 2006). The 2006 study included five dolphin subjects: the four from the original 2001 study and one more naïve dolphin, though the naïve dolphin failed to progress through the training procedure and was therefore not tested. The main controls added to the 2006 study were a naive experimenter whose job it was to release the subject for their final choice response, and the insertion of what was termed true belief trials (TB trials) in addition to the false belief trials (FB trials). In TB trials the human observer, who was to communicate location to the dolphin, knew the correct location of the reward. Critically, there were two types of TB trials. In one type the observer witnessed the containers being swapped while in the other type the containers were not switched. This provided a better control since one TB trial type could not be solved by associative learning alone (e.g., to choose the opposite of what the observer points to when containers are switched).

Hill and colleagues (2018) later used Tschudin's (2006) methods to investigate ToM in two dolphins, though only one made it through training to testing. In the end, the dolphin did not respond correctly on FB trials, though it did demonstrate accuracy on the TB trials. Hill et al. (2018) also investigated displacement tasks during their work and it is important to note that an assumption of the understanding of object permanence and displacement is critical for successful performance on FB trials (see Hill et al. 2018 for further discussion). Therefore, the sparse evidence thus far does not support ToM in dolphins, however, we must remember that a failure to 'pass a false belief task' may not be the only, or best way to assess ToM, especially in a marine mammal. For more on working to find ecologically valid methods for ToM, which are also able to be used and compared across species, see Hill et al. (2018).

While ToM research with dolphins is rare and inconclusive, a handful of studies have been conducted on metacognition which opens another avenue to studying consciousness across species Metacognition is broadly defined as one's awareness about one's own knowledge state. For example, you may not understand quantum physics, but you can be aware of your lack of understanding. One way to assess metacognition (or one's knowledge about what they know) is by studying one's confidence in their knowledge state, or in other words—uncertainty. We can set up a method in which a subject would answer 'yes', 'no', or 'uncertain'. For a human this may be a memory test. For example, one may study a word list with 10 items. The next day they may be asked to rate their memory for the original 10 words embedded in a 20-item list. The job of the participant is to state for each of the 20 words if it was on the original list, was not on the original list, or if they are not sure/uncertain. This measures not simply their recall overall (correct remembered items) but their *awareness of their knowledge* based on their confidence level (e.g., yes, no, uncertain). Research on metacognition in dolphins based on a psychophysical procedure of tone discrimination (i.e., hearing tests), was conducted along with a comparable study on humans (Smith et al., 1995). The basic premise was that both humans and dolphins were to behaviorally report whether they heard a tone, did not hear a tone, or were uncertain if they heard a tone. They were therefore provided three response choices for trials in which they were presented a sound at varying frequencies and volumes. They could indicate a 'yes' response, a 'no' response, or an 'uncertain' response. For both species the uncertainty option was used appropriately (given knowledge of hearing for both species) when the tone presented was difficult to discriminate. The human participants actively discussed afterwards that this was in fact their strategy. We can only assume for the dolphins, as when we study humans, we endow them with consciousness and explain their behaviors as such, but we do not offer the same charity for the same behaviors seen in non-humans.

Other research related to metacognition with dolphin subjects found that they were able to successfully repeat a behavior they had just completed when the trainers gave them a signal to 'repeat' (Mercado et al., 1998) indicating an awareness of their own behavior (and potentially awareness of their own awareness). Mercado and colleagues (1998) trained dolphins to repeat the previously demonstrated behavior when given the 'repeat' command. By training the subjects on the command, and then the task overall, they were able to probe the dolphins' awareness of their memory for their own actions. Trainers asked the dolphins for a behavior, and then presented the 're-

peat' command. In order for the dolphins to be successful they would need to have a mental representation/memory of the last behavior they have just completed *and be aware of this* in order to know which behavior to repeat at a given time. Both dolphins were able to accomplish this task successfully (Mercado et al, 1998). Interestingly, another group of marine mammals (the pinnipeds) has also demonstrated the ability to recall a past behavior and repeat it when asked. One gray seal (*Halichoerus grypus*), two harbor seals (*Phoca vitulina*), and four South American sea lions (*Otaria flavescens*) repeated previously presented behaviors, even after a delay (Smeele et al., 2019). Results from these studies indicate a foundation for metacognition in cetaceans and pinnipeds.

Taken together, work on MSR, ToM, and metacognition has provided ample evidence to warrant an increase in animal research beyond non-human primates, and in particular with marine mammals as model species for complex cognition and consciousness (see also Smith, 2009).

Conclusions

There are many areas, that when taken together, add an increasing amount of evidence for the validity of studying consciousness in marine mammals and animals more broadly. In the field of animal behavior and comparative cognition, scientists are trained to abide by Morgan's Canon which states that "In no case is an animal activity to be interpreted in terms of higher psychological processes if it can be fairly interpreted in terms of processes which stand lower in the scale of psychological evolution and development," (Morgan, 1894, p. 53). Perhaps, we are on the precipice of a mounting body of evidence wherein the most parsimonious explanation is that consciousness (in some form) is found across species and is therefore not uniquely human (see Herman, 2012). Research has shown that humans tend to overestimate our human uniqueness and underestimate the abilities and the 'inner worlds' of non-humans. This may be in part because historically "All terms come from a human linguistic and symbolic system of reference. It might not be truly pertinent to try to find them *sensus stricto* in animals," (Delfour 2006, p.525). We argue that consciousness is one such term that should be considered from a broad perspective of species. It is critical to learn from the historical pattern of claiming a cognitive characteristic as solely human only to have researchers and their animal subjects successfully demonstrate this ability across species. The typical reaction to this type of research has been to 'raise the bar' that distinguishes humans rather than to accept that at least some non-humans are in fact more cognitively complex than we may feel comfortable admitting (e.g., research on tool use see Visalberghi et al., 2017; research on imitation see Zentall, 2003). There is no need to classify an ability as human or non-human, and a change or variant of a particular ability from one species to another does not need to indicate that one is 'better' (e.g., more human-like) or 'worse' (e.g., less human-like). Rather, we should embrace and *expect differences* due to each species' inherently differing biology, evolutionary history, and social and environmental pressures. A continuum of consciousness is more parsimonious than an assumed dichotomy and marine mammals should be considered a model group for such research inquiries.

Andrews (2020) stated that, "As participants in a multidisciplinary endeavor, scientists use various tools and concepts in order to investigate what appears to be the same question. Because the question is framed by the discipline that surrounds it, the kinds of answers the scientists are looking for will differ, and they need not be in conflict any more than are the social scientist's and the biologist's explanations of the same human behavior" (p. 31). There is no need to formulate one agreed upon definition of consciousness, but rather to argue that differing definitions serve differing operational purposes and stating that one species 'has consciousness' while another does not is counterproductive to the advancement of knowledge.

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What is it Like to be an Anxious Bat?

Laura Egan

Emotions play a crucial role in how we navigate our lives, both through our reactions to our internal bodily sensations and how we interpret the emotions that others show us. Disturbances in these phenomenological processes can contribute to the development and maintenance of mental disorders, such as anxiety. Investigating these disorders can serve as a case study in the hard problem of consciousness (Chalmers, 1995): Why is the *disrupted* performance of these functions accompanied by *pathological* experience?

A considerable roadblock in our understanding of emotional consciousness stems from loosely defined terminology (affect, feelings, emotions). Affect is often used as an umbrella term for the others, but in other cases refers to physiological arousal, ranging from deactivated to activated, and valence, ranging from unpleasant to pleasant. Feelings and emotions are often used interchangeably, but a more fine-grained distinction is important when considering our phenomenological experiences. In part, this comes down to two aspects of emotions: what is it to *feel* an emotion and what is it to *show* an emotion?

One resolution to this definitional ambiguity is to separate terminology into three aspects of our emotional experience (Shouse, 2005). Using this terminology, *affect* is defined as *prepersonal* experience. These experiences could be precursors for multiple feelings, such that an increase in heart rate is associated with both fear and excitement. The subjective interpretation of the prepersonal is then our *personal experience*, or *feelings*. This is the unique, internal experience—what it is to feel an emotion (e.g., the experience of fear when your heart is pounding). Last, *emotion* is then conceptualized as *social expressions* or what is displayed to others, such as a facial expression. This social expression is also then interpreted by others around you, leading to their own subjective interpretation of your display.

The *personal* experience is where we come into the question of consciousness—what is it to have this feeling? The widespread use of reliable self-report measures demonstrates a consistency in how fear is experienced, which would suggest that given your own experiences of fear you would know what it is like for another person to experience fear. That is, rather than being able to answer, “What is it like to be a bat?” (Nagel, 1974) you would be able to answer, “What is it like to be fearful?” However, when we cross into the realm of clinical fear, or anxiety, it becomes difficult for others to understand how an anxious person feels. Whereas fear arises from a known threat, anxiety stems from the unknown and often from misinterpretation of one’s experience. Thus, the “other” experience may be inaccessible; an anxious person cannot understand, “What is it to not feel anxious?” and a non-anxious cannot understand, “What is it like to feel anxious?”

Anxiety manifests in several forms, two of which are particularly relevant for the discussion of the role of emotional consciousness in mental health. Panic disorder is characterized by sudden and intense fear without a discernable cause, leading to phys-

ical reactions such as elevated heart rate and sweating. Individuals with panic disorder often spend much of their time preoccupied with worries that a panic attack such as this might occur. In contrast, social anxiety disorder is defined by an intense fear with an external cause: the fear of being negatively evaluated or judged by others in a social situation. A wealth of research suggests that the misinterpretation of ambiguous emotional expressions as threatening contributes to the development and maintenance of the disorder (MacLeod et al, 2004). Thus, one disorder stems from misinterpretation of emotional experiences from within while the other arises from misinterpretation of external experiences.

A potential etiological mechanism of panic disorder is an increased sensitivity to, and fear of, bodily sensations; that is, a person who tends to catastrophize an increased heart rate may go on to develop panic disorder (Olantunji & Wolitzky-Taylor, 2009). Thus, this disorder resides in the space between the *prepersonal* and *personal experience*. Whereas a person with panic disorder will interpret their elevated heart rate as the harbinger of danger, an individual not living with this disorder may interpret it as a benign physical sensation. Social anxiety disorder, on the other hand, arises in the space between another person's *social expression* and one's own *personal experience*. Whereas an angry face could be easily interpreted as a potential threat, an individual with social anxiety disorder may interpret an ambiguous or neutral expression as threatening rather than benign, due to the uncertainty behind it. The generation of the personal experience is thus based on disrupted interpretation of prepersonal experiences and social expressions for individuals with these anxiety disorders.

The personal experience of fear in these two examples may not be different than a non-anxious individual's experience of fear in the face of a real threat. However, an anxious individual may not understand what it is to not be fearful in these situations and a non-anxious individual may not understand why the other feels such fear. The fact that the understanding of these phenomenological experiences is inaccessible to the other person is not a barrier but rather an opportunity for change. One of the most widely used treatments for anxiety, cognitive behavioral therapy, aims in part to guide patients away from the processes that lead to these altered personal experiences. Through guided exercises and activities, a patient becomes aware of the source of their negative thoughts and gains tools for replacing them with adaptive interpretations of their prepersonal and social experiences. In essence, cognitive behavioral therapy is teaching an individual how to reach the phenomenological experience of non-anxiety—showing them what it is like to be non-anxious.

Although cognitive behavioral therapy is an effective treatment for these two anxiety disorders, many who could benefit from it often do not seek out treatment. This may be due in part to financial or access barriers, but another major factor is the stigma against mental illness. Educating the public on the personal experience of individuals with anxiety—showing them what it is like to be anxious—could foster a greater understanding of the disorder and potentially reduce stigma surrounding it. The inability to understand another person's subjective experience fully should not preclude our belief in their consciousness. This inaccessibility should instead be viewed as a temporary barrier and be mobilized as an area to learn for improving attitudes towards and engagement with treatments for anxiety.

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William James's Legacy: From a 'Stream of Consciousness' to an Ocean of Psychological Principles

Daniel Kaplin

William James, credited by many scholars as the founder of American Psychology, made several noteworthy contributions to biology, philosophy, sociology, religion, and one's conscious experience (Radu & Incze, 2019). In this brief article, I review James's concept of the stream of consciousness and its applicability to neurobiology, sensation and perception, emotions, memory, and even psychotherapy.

Consciousness

In *Principles of* Psychology, James (1890) states:

> Consciousness, then, does not appear to itself chopped up in bits. Such words as 'chain' or 'train' do not describe it fitly as it presents itself in the first instance. It is nothing jointed; it flows. A "river" or a "stream" are the metaphors by which it is most naturally described. In talking of it hereafter let us call it the stream of thought, of consciousness, or of subjective life (p. 239).

A stream of consciousness refers to all experiences that one can perceive and make sense of. James (1890) notes that one's thoughts are linked to a personal consciousness, which is continuous, constantly changing, relates to objects independent of itself, and welcomes some aspects of a given object to the exclusion of other aspects. Moreover, as is reflected in the aforementioned quote, consciousness is subjective in nature and is impacted by the perceiving person. Phenomenologists and existentialists, such

as Edmund Husserl, Franz Brentano, and Fritz Perls, adopted these principles in their theories (Boris et al., 2017).

In describing consciousness as a "stream," James highlights that one's conscious experience never recurs in the same way. James's approach to understanding consciousness as a composite was also in direct contrast to the thinking of Wilhelm Wundt and Edward. B. Titchener who were more interested in the more "elemental" structure of consciousness (Klein, 2020; Radu & Incze, 2019). Freud's writings were also deeply rooted in religion and philosophy (Kaplin et al., 2017). Nevertheless, James's emphasis on consciousness diverges from Freud's emphasis on the unconscious. This shift in focus allowed psychology towards empiricism and the function of behavior. Below, I review how William James's views on consciousness influenced several subdisciplines of psychology.

Consciousness and Neurobiology

One direct application of William James's theory of consciousness is neurobiology. Crick and Koch (1990) suggest that, in addition to the reticular activating system, which plays some function in the conscious experience, the thalamus, hippocampal system, and cerebral cortex, all play more integral roles in consciousness. The crux of their theory is that consciousness depends crucially on short-term memory and serial attentional mechanisms. This attentional mechanism helps sets of the relevant neurons to fire in a way that creates a temporary global unity in many different parts of the brain. These oscillations in neuronal activity then trigger short-term (working) memory processing. Neurobiology of consciousness has been applied to vision (Crick & Koch, 1998, 2003), auditory processing (Brancucci et al., 2011), time (Kincewicz & Herbst, 2015), and several others.

Sensation and Perception

William James (1890) stated "sensation arouses in the hemispheres which are due to the organization of that [sense] organ by past experiences...The consciousness of particular material things present to sense is called perception" (p. 76). Gephart (2017) notes that William James integrates sensation, perception, and cognition into the conscious experiences. James's influence could be seen in the work of Eleanor Gibson's principles of infant perception (Dembar, 1990). More recently, Holcombe et al. (2009) suggested that infant synesthesia was also rooted in James's writings.

Theory of Emotions and Consciousness

William James and Carl Lange independently proposed theories of emotions (referred to as the James-Lange Theory of Emotions) in which a person experiences an environmental stimulus, which leads to a physiological reaction, and one's interpretation of this reaction determines one's emotional experience. The James-Lange theory of emotions prompted early criticism by Walter Cannon (1927), who offers a contrasting theory suggesting that emotional responses happen at the same time as the physiological response. Additionally, Cannon and his student Philip Bard isolate the thalamus as the source of affective experiences (Bard, 1928; Cannon, 1927, 1931). Interestingly,

Papez (1937) offers an alternative neurobiological explanation that includes multiple limbic structures. Finally, Schachter and Singer (1962) offer a two-factor theory of emotion, which include both cognitive and physiological processes. Each of these theories were developed either as a response to or inspired by the work of William James. Kühle (2017) uses embodied consciousness to explain the Jamesian view of emotions.

Memory and Consciousness

William James's contributions to work on memory cannot be discounted. James links the conscious experience to both short-term and long-term memory. James asserted that our consciousness of "the now" is impacted by both our past experiences and expectations of the future (Dooley, 2006). In relation to long-term memory, James (1890) notes:

> Memory proper, or secondary memory as it might be styled, is the knowledge of a former state of mind after it has already once dropped from consciousness; or rather it is the knowledge of an event, or fact, of which meantime we have not been thinking, with the additional consciousness that we have thought or experienced it before (p. 648).

Atkinson and Shiffrin's (1968) multi-store model of memory is a modern application of William James's view about memory. While Atkinson and Shiffrin add the concept of a sensory store, their concepts of short-term and long-term memories align with Jamesian principles. Glanzer and Cunitz's (1966) serial position effect demonstrates that the first few words (*primacy effect*) in a list activate long-term memory; whereas later words (*recency effect*) in a list activate short-term memory. Similar to how James benefited from the work of Ebbinghaus, Atkinson and Shiffrin and Glanzer and Cunitz's benefited from James's conceptualization of memory. Accordingly, we use traces to access prior experiences or memories (Rudmann, 2018).

Psychotherapy and Consciousness

While William James was not a clinician, his concepts of consciousness and emotions are central to effective psychotherapeutic interventions (Hanna, 1994; Hart, 1981). More specifically, emotions are conscious mediators of behavioral change. James stated (1884), "if we wish to conquer undesirable emotional tendencies in ourselves, we must assiduously, and in the first instance cold-bloodedly, go through the outward motions of those contrary dispositions we prefer to cultivate" (p. 198).

These ideas have natural applications to humanistic-existential, Gestalt, and rational emotive behavioral therapies. By many accounts, William James was an existentialist (Muller, 2015; Schneider, 2015). William James's work influenced the thinking of Rollo May among other existential psychotherapists (Mendelowitz, 2011; Mendelowitz & Schneider, 2007). Fritz Perls was also influenced by Jamesian principles such as phenomenology and existentialism when conceptualizing his version of Gestalt therapy (Boris et al., 2017). As was noted above, emotions are conscious mediators of behavioral change. This is consistent with Ellis's (1994) Rational Emotive Behavioral Therapy Model (REBT), which he proposes that cognition, action, and emo-

tion are inextricably interrelated. A second parallel between REBT and Jamesian philosophy is their emphasis on pragmatism (McMahon, 2008).

Concluding Remarks

It is quite difficult to capture William James's influence on psychological discourse for the past century. However, using his conceptualization of consciousness as a cornerstone for this brief report, I hope the reader gains appreciation for the versatility of his ideas. This principle alone spurred considerable research in behavioral neuroscience, cognitive psychology, emotions, and psychotherapy.

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Teacher as Artist: Integrating a Contemplative Practice in Teacher Education

Marina Gair

> "The teacher is of course an artist, but being an artist does not mean that he or she can make the profile, can shape the students. What the educator does in teaching is to make it possible for the students to become themselves." Paolo Freire, in *We make the road by walking: Conversations on education and social change* (p. 302)

In the predominantly skills-oriented approach to preparing teachers that has historically dominated teacher preparation programs, I reflect and ask myself what I have done to help my students become themselves, to become more fully human. How have I carved out a space to search for understanding and other consciousness-raising cornerstones that ought to define higher education? How have I socialized teacher candidates to be reflective practitioners who question their practice and are concerned with pursuing the well-being of society, and take up causes for what is right and just? Do I faithfully pursue critical praxis, or simply make compromises and chip around the edges of this system? How have I established a meaning-centered classroom as a means of enhancing student learning towards self-actualization?

I have been a teacher educator for quite some time now. A splendid, rewarding, and at times deeply unsettling endeavor. Initially, my goals were modest—creating an em-

powering classroom experience and promoting a love of learning; a place where creativity and innovation abound, much like the experiences that defined my tenure in graduate school. To this day I am indebted to my mentors for the intellectual curiosity and the habits of mind they helped shape. The critical theoretical disciplinary lenses through which they encouraged me to interpret the curricular, ideological, and structural components of schooling, have allowed me to develop not only a broad understanding of the educational process, but more importantly, my essential role in it. As I began to more fully understand the structural components of schooling and the larger field of power in which educators are prepared, I realized that my mentors had left me with a much greater responsibility. That defining moment in my academic preparation came when I first read the timeless words of Brazilian educator and social thinker Paolo Freire.

Freire held that learning is to be viewed as a quest for both worldly and self-knowledge; a love of ideas; an opening of the mind and spirit; and to invoke economist Karl Marx, an un-alienating of labor to become more fully human. It was only after the turn of the first few pages that I began to embrace his ethical, humanist pedagogy, in which my pedagogical stance has since been decisively grounded. Freire, perhaps still the most renowned educator in the world, despite continued resistance to his teachings, drew here upon liberation theology to forge his theory of pedagogy. He defined the practice of teaching, above all else, as a human art. Educators, he maintained, work in an unavoidably political enterprise and ought to possess a clear sense of what is both right and just.

With the teacher as artist pedagogical stance, I have made an effort to integrate mindfulness practices in the college classroom as a way to promote consciousness-raising. My hope is that carving out spaces for contemplative practices would lead to the personal and social awareness that Freire championed throughout his teachings. However, my understanding of mindfulness did not come easily.

The most common definition of mindfulness is often attributed to Jon Kabat-Zinn, professor of medicine and widely recognized as a founder of mindfulness-based stress reduction in the Western world, who described it as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 144). While recognizing the psychological and medical benefits of practicing mindfulness, I wriggled with what I appeared to be primarily meditative relaxation techniques designed to reduce stress. In fact, almost every elementary classroom in which I observe my student teachers features a mindful corner for students to “escape” an instructional task and regulate their emotions. While not discounting the ways in which others choose to adapt and practice mindfulness, I am drawn more to the conversations that deepen my understanding of how I can introduce contemplative practices as an entrée to the critical consciousness to which I was introduced in Freire’s teachings. Making this connection for students does not come easily, particularly for those who do not respond well to ambiguity, introspection, or the release of long-buried tensions and emotions that can be revealed and misunderstood in contemplative exercises.

As I enriched my own understanding of a mindfulness-based, contemplative pedagogy through summer institutes, I added several contemplative practices to my repertoire of teaching. Each was designed to activate the lesser attended emotional and attitudinal or *affective domain* of learning (Krathwohl, Bloom, & Masia, 1973).

Herein, I focus on one particular activity called *Opening Our Maletas* because of the personal mean-making that students were able to derive from the experience and the insights that I hoped would shape their own work as teachers as artists. Of all the techniques I have integrated to create a more mindful classroom, this exercise has the most lasting value because it encourages students to be deeply introspective and learn how to awaken and use the untold stories that dwell inside of them, to inform their important work ahead.

A *maleta* is the Spanish term for suitcase or luggage. I introduced the notion of a maleta as part of an assignment in my Educational Psychology and writing course nearly a decade ago. Since then, there have been many replications of this assignment across my courses, but I retained aspects of the project that resulted in residual leavings and enduring understandings.

The assignment begins as a writing prompt which requires students to fill an envelope designed as a maleta with objects, artifacts, or symbolic representations of their experiences that can ideally be used as story seeds. For example, these objects might represent dreams, wonderings, histories, sacred places, important events or milestones, sense of place, family stories; or, celebratory, joyful, and painful events that have marked their lives. The accompanying writing prompt is titled, "What We Carry" (or variations thereof), during which I ask students to take an artifact from their maleta and write a short vignette about it.

Part of this process includes a contemplative moment called *beholding* (Barbezat and Bush (2014, pp. 148-157). In a modified approach from the original act of beholding, I ask students to select the image, representative object, or artifact from their maletas, and through sustained attention of a small group, talk about its personal meaning, symbolism, and significance. The mindset engendered in this process is one of acceptance and nonjudgment.

The funds of knowledge, self-inquiry, and multilingual landscapes represented in each of our maletas continued, week after week and year after year, to raise not only our self-awareness, but created a classroom dynamic that opened doors to deeper conversations about our experiences and frames of reference. In the process of drawing on our maletas, we carved out a calmer, reverent space in which our focused attention to each other and authenticity of these interactions, generated an empathy that I believe is a critical aspect of students' intellectual and personal growth that could in turn inform curricular decisions and interactions with the future students in their care. Psychologist Tobin Hart (2004) and Arthur Zajonc (2006), founder of the Contemplative Mind and Society, describe such contemplative moments as sensory and reflective ways of knowing; in essence, an "epistemology of love" (Zajonc, 2006, p. 1742). The social-emotional aspect of the curriculum, asserts Zajonc, has been neglected and yet it is the *vulnerability*, *deep participation*, and *empathic connections* that we make in

the process, that make the educational experience transformative (p. 1747). He expands this insight in asking, "What are the implications of a deep experience of interconnection for knowing, teaching, learning and life? What would be gained if...we were to cultivate a deep sense of caring for others, based on a profound sense of interconnection?" (Zajonc, 2010, p. 77).

In my writing course, specifically, each maleta carries the seed of a story which students draft in their journals through a guided process of five to 15 minutes over the course of the semester. Routinely, contemplative writing concludes with a short author's chair for those who would like to invite feedback from their peers. Akin to beholding, we begin with the important ritual of *receiving the piece* (Graves, 2003) anytime someone is in author's chair. Corrective tendencies aside, *receiving the piece* means receiving one another's writing with a spirit of generosity and in doing so extending to others the same nonjudgmental feedback that they wish for themselves.

The product of the writing process is shared in a celebratory author's chair at the end of the term where we gather as a community of writers to read our stories. It is here in these concluding moments with our extended families surrounding us, that we realize how our stories have engaged us, educated us, generated meaningful conversations, raised our awareness, connected us, and forged friendships otherwise not considered. In each story, the author's plot line and character arc are drawn from real life experiences, and as such, each story was not only a basis for students understanding themselves, but for the transformative potential in the collective telling of the stories about our lives.

In his essay, *The Nonduality of Good and Evil*, Zen philosopher David Robert Loy (2003) fittingly captures the sentiment of interconnectedness:

> The delusion of separation becomes wisdom when we realize that no one is an island. We are interdependent because we are all part of each other, different facets of the same jewel we call earth. This world is not a collection of objects but a community of subjects, a web of interacting processes. Our interpermeation means we cannot avoid responsibility for each other. (p.108)

There is no guarantee, however, that the empathic connections generated by contemplative practices, including the one described herein, will result in taking up causes for what is right and just. But peace activists (Hahn, 1991), spiritual leaders (Lama, 2008), social justice theorists and contemplative practitioners (Berila, 2015; Dass & Bush, 1992; Magee, 2016) believe that the sense of interconnectedness and interpermeation of which Loy writes are the fundamental conditions that advance compassionate action in society. As Freire (1970) maintained, any transformative actions are not possible without a fundamental change in attitude and in critical dialogue with others. What emerged over time in opening our maletas in a contemplative space was the capacity to look inward and generate a self-awareness, and at the same time a contextual awareness, that collectively reframed our perceptions, beliefs, and interactions with each other, and thereby our consciousness. Therein lies the possibility for students to fill their own maletas with a wealth of new understandings and insights to inform their pedagogical stance, curricular decisions, relational components of teaching, and responsibility as future educators in a society rife with injustice.

As teacher-artist, my work towards critical consciousness in the classroom is ongoing, messy, and unfinished. In the end, I remind myself that education is a process of becoming. Robert Kegan's (1994) constructive-developmental theory highlights the need for educators to build developmental bridges in the process of students' self-evolution and is both instructive and worth quoting at length as we begin a new school year:

> If our curricular aims… are somewhat over the head of the entering student, then we must build a transitional or bridging context… that is both meaningful to those who will not yet understand that curriculum and facilitative of a transformation of mind so that they will come to understand that curriculum. We cannot simply stand on our favored side of the bridge and worry or fume about the many who have not yet passed over. A bridge must be well anchored on both sides, with as much respect for where it begins as for where it ends. (p. 62)

I suppose that opening our maletas was my own bridge to raise both students' self-awareness and awareness of our inherent interconnectedness (Loy, 2003) referenced earlier in this paper. Once they cross that bridge and head out on their own paths as teacher-artists—with maletas in hand—I hope that they look back only long enough to see where we have been, then begin to create the same reverent spaces for teaching and learning, and perhaps above all, nurture their own students' understanding of how to learn new things and integrate them into their sense of who they are.

If I have accomplished any of this, I have at least partially fulfilled my responsibility of teacher as artist.

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Analytic Phenomenology and the Temporality of Consciousness

Christopher Stratman

I have two goals for this article: First, I shall introduce and explain "analytic phenomenology". Second, I shall consider one way that analytic phenomenology, as a philosophical method, has been deployed in contemporary philosophy of mind and suggest that philosophers who embrace it should take seriously the phenomenology of temporality.

The term "phenomenology" has been defined in a multitude of ways, but the general idea is that it is the study of the way things appear in experience broadly construed to include sensations, perceptual modalities, cognition, emotion, memory, imagination, and numerous other forms of mental phenomena. Phenomenology as a philosophical discipline has taken various forms and can be traced to philosophers like Brentano, Husserl, Heidegger, Merleau-Ponty, and William James.[1] While the traditional understanding of phenomenology in continental philosophy is primarily associated with these historical figures and their followers, in recent years many analytic philosophers have focused on the structure of experience as a result of debates regarding the relationship between phenomenal consciousness and the physical brain. But both continental and analytic traditions claim to take seriously the subjective, first-personal point of view involved in conscious experience. However, analytic philosophers focus on whether phenomenal properties are reducible to or supervene on physical-functional states of a subject's brain. In what follows, I shall examine how some philosophers working in the analytic tradition have repurposed the notion of phenomenology and argue that in so doing, they have left out the phenomenology of temporality.

Analytic phenomenology is a philosophical method. As Goff (2017) states: "Start with common sense, empirical data, *and* carefully considered intuitions concerning the nature of phenomenal consciousness, and move on by appeal to theoretical virtue" (271; emphasis in the original). According to this approach, we incorporate phenomenal consciousness as a kind of hard datum into our empirical evidence of reality.[2] We need not explain the nature of consciousness in some reductive, physicalist terms. Rather, phenomenal consciousness is our starting point, something that we take as a given. This has been described as a consciousness-first approach in analytic philosophy of mind.[3] Methodologically speaking, we can use phenomenal consciousness as evidence in our theorizing about other mental phenomena such as intentionality or the aboutness of thought and perception.

The term "analytic phenomenology" might also be understood as referring to a method whereby we use the tools of analytic philosophy to study conscious experience itself. On this approach, instead of focusing on the metaphysics of consciousness, we do phenomenology from an analytic viewpoint and with analytic values guiding our investigation of conscious experience.[4] To be sure, these are importantly different ways of understanding "analytic phenomenology", but they are not necessarily inconsistent.

In contemporary philosophy of mind, intentionality is generally understood in terms of the representational aboutness or directedness of a mental state. Standardly, philosophers have construed intentional mental states in terms of propositional attitudes, such as the belief that *p*. The central task of a theory of intentionality, then, is to provide a plausible explanation of how we can give the truth-conditions for such mental states. And philosophers quite enthusiastic for a naturalized theory of intentionality have sought to provide such a theory in terms of either some causal-functional role or tracking relation that holds between the thinking subject and her environment.[5] The idea, then, is that we can make sense of a subject's conscious mental states in terms of her representational or intentional mental states. And if this is correct, then a theory of intentionality would serve as the basis for a theory of consciousness.

However, representational theories of intentionality face numerous problems.[6] In response to such worries, some philosophers adopted a new approach that reversed the order of explanation. Phenomenal consciousness was taken as basic and used to explain intentionality. This view is called the "Phenomenal Intentionality Theory" (PIT).[7] It has grown in popularity in recent years amongst analytic philosophers, emerging as a genuine research program.[8] There are several theses that frame the general contours of PIT, but the central proposition says: "There is a kind of intentionality, pervasive in human mental life that is constitutively determined by phenomenology alone" (Horgan and Tienson 2002: 520). Proponents of PIT argue that phenomenal intentionality is a kind of "original intentionality", insofar as it is distinct from and prior to all other forms of intentionality, which are ultimately dependent on phenomenal intentionality.[9] Since these philosophers take intentionality to be, in some sense, counterfactually dependent on or a subspecies of phenomenal consciousness, they are deploying the method of analytic phenomenology described above—that is, their project can be interpreted as investigating conscious experience itself. Thus, they are doing phenomenology by using the philosophical techniques and values of analytic philosophy.

For instance, proponents of PIT typically accept the following thesis: "Mental States of the sort commonly cited as paradigmatically phenomenal (e.g., sensory-experiential states such as color-experiences, itches, and smells) have intentional content that is inseparable from their phenomenal character" (Horgan and Tienson 2002: 520). Call this the "Intentionality of Phenomenology Thesis" (IPT). This thesis is crucial because philosophers have long thought that the "what-it-is-likeness" for a subject to be in some phenomenal mental states or have phenomenal mental properties are entirely separate from their intentional mental states.[10] But, if the phenomenal and the intentional are inseparable, then there is an important relation between them. Attempting to understand and explain the nature of this relationship is a central task for the propo-

nent of PIT. Of course, endorsing analytic phenomenology does not mean that we can simply assert without a good argument the truth of a thesis such as IPT. What is needed is an argument.

One argument that Horgan and Tienson (2002) offer is this:

> …In typical cases of experiencing red, the *overall* phenomenal character of one's visual experience is a structurally rich what-it's-like of *experiencing a visually presented scene*, a scene that contains a whole array of apparent enduring objects with various properties and relations—including the property redness instantiated on the surfaces of some of these objects. The total visual experience with this overall phenomenal character is richly intentional, since it presents a temporally extended scene comprising various objects that instantiate various properties and relations at various spatial locations relative to one's center of visual awareness. This total visual experience is also richly *phenomenal*, because there is an overall what-it's-like of experiencing the whole scene. (Any visually noticeable alternation in the visually presented scene would be a *phenomenal* difference in one's total visual experience.) (521-522; emphasis in the original).[11]

I take this argument to be a paradigmatic example of the sort of argument that one would give for the claim that the phenomenal and the intentional are inseparable. Therefore, it demonstrates the method of analytic phenomenology described above—it is a phenomenological argument.

Now, the example of visually experiencing a whole scene of, say, a red apple on a table or someone taking a bite of a red apple, crucially involves a kind of first-personal, subjective point of view. And if this is correct, then it would arguably involve some sort of temporal duration too. Even if we consider a case where we are perceiving a single solitary patch of red in a void where there is no other kind of noticeable change, only a constant static phenomenal red, still there would presumably be the changing of one moment into the next moment.[12] And this would be true, even if nothing else were to change. Thus, conscious experience involves change, which grounds the temporality typically associate with the first-personal, subjective point of view exemplified in the passage above. But IPT, which this phenomenological argument is supposed to support, is a claim about mental states and phenomenal properties. This is strange. If we think, as we should, that the experience described in the passage above crucially involves a phenomenology of temporality, the appearance of one moment flowing into the next, this suggests that conscious experience essentially involves some sort of temporal structure or temporal shape.[13] So, there may be something wrong with the kind of phenomenological argument presented above.

To my mind, the argument presented in the passage above does not involve mental states or phenomenal properties. Rather, it is describing a kind of phenomenal episode or diachronic event that a subject undergoes. Indeed, I would argue that all phenomenological arguments of the sort cited above have this feature. If so, then we have reason to doubt that it can support IPT, but to develop this point in detail would take us well beyond our current purposes. It is sufficient to merely suggest that philosophers who embrace the kind of analytic phenomenology need to take seriously temporality.

Notes

1. For a helpful discussion, see e.g., Smith (2013).
2. See e.g., Goff (2017), pp. 3-5.
3. See e.g., Pautz (2013).
4. For a discussion of this approach, see e.g., Pitt (forthcoming).
5. See e.g., Lyons (1995).
6. There are too many challenges to discuss in detail here but for a discussion of some recent examples, see Kriegel (2013b); Mendelovici & Bourget (2014); and Mendelovici (2018), chapter 3.
7. For a helpful anthology on this view, see e.g., Kriegel (2013a).
8. See Kriegel (2013b).
9. For a discussion of this point, see e.g., Kriegel (2013b), p. 3.
10. Here I am using Nagel's (1974) ostensive way of defining conscious experience.
11. For discussion of this kind of phenomenological argument, see e.g., Strawson (1994, 2004); Siewert (1998); Loar (2003); Pitt (2004); Farkas (2008); Bourget (2010, 2017); and Mendelovici (2018).
12. For a discussion of this point, see e.g., O'Shaughnessy (200), pp. 42-43.
13. For discussion of this point, see e.g., Steward (1997).

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