Contemplative aims for information

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Abstract

Introduction. It has been established that information contributes to epistemic aims; but information is also involved in other aspects of human life. This paper considers how information relates to contemplation, postulating a set of contemplative aims for information. This discussion is an effort to focus and formalize the field's understanding of how information can form people beyond traditional measures.

Method. A wide-ranging and long-term hermeneutic literature review was conducted in contemplative studies and information research, including trade literature.

Analysis. Conceptual design was used to construct a set of contemplative aims for information, as related to unfolding trends in the information field.

Results. A conceptual framework of contemplative aims for information studies is put forward, comprising six contemplative aims: being, attention, meaning, compassion, unity, and wisdom. Precedents and implications are discussed for each of these in the sectors of museums, libraries and technology design.

Conclusions. This framework systematizes a vast literature across the information field and poses numerous research questions for further research to explore. The intersection of contemplation and information is not only alluring and current, but also vitally important to human being and contemporary society.

<p style="text-align:center">⁂ ⁂ ⁂</p>

> *Peace, contentment, and love are important **aims** for most people. These are the rewards, the fruits, of a good life. Additionally ... these experiences are a powerful **method**, a wonderful path, for transforming your brain.* (Hanson, 2013, p. 54, emphasis his)

Information is generally discussed in terms of epistemic aims, such as knowledge, learning and understanding. But today, with the proliferations of mis- and disinformation (Fox, 1983), bullshit (Frankfurt, 2005), information overload and anxiety (Bawden and Robinson, 2009), etc., it is evident that information also contributes to other aspects of human consciousness.

For information studies to continue to solve societal problems and reveal more healthful ways of being, appealing only to epistemic aims may not be enough.

In this paper, we suggest that information can contribute also to contemplative aims. That is, we assert that information and documents can contribute to contemplation (and vice versa), which in turn is valuable for the development of persons. We provide a conceptual framework of contemplative aims for information studies, drawn from contemplative studies. This framework comprises six contemplative aims: being, attention, meaning, compassion, unity, and wisdom. In presenting these aims, we identify touchpoints for both research and practice. This argument builds on prior work in information studies (e.g., Capurro, 1996; Dervin, 1999; Levy, 2007), and it also links the information field with that of contemplative studies, which constitutes a vast horizon for the future of information research.

Information and epistemology—and beyond

Epistemology is the philosophical study of human knowledge and understanding. Prima facie, it would seem that information functions epistemically—i.e., that through information a person comes to know and understand things. So rightly, there is a deep-seated tradition in information studies linking information to epistemology (see Fallis, 2006; Furner, 2010) dating back at least to Egan and Shera (1952), who developed the concept of social epistemology. Perhaps the most famous epistemological formulation in the field is Ackoff's (1989) pyramid of data, information, knowledge, understanding and wisdom. The model is still discussed in knowledge management, and there has been much critical literature on the subject (Ma, 2012). Indeed, a corpus of work in information studies has discussed, criticized and developed these concepts and their connections (for a recent account, see Gorichanaz, 2017). Rowley (2006), for instance, questions whether and how wisdom, as part of Ackoff's pyramid, is an epistemological construct.

Many have pointed out that the purely epistemic conceptualization of information is insufficient. Furner (2010) mentions that people may seek and use information for reasons other than epistemic ones. Capurro (1996, p. 24) suggests that information should contribute to '*such critical arts as interpretation, aesthetic or creative design, and responsibility toward our*

lives'. So too have Kari and Hartel (2007) argued that information research and practice can relate to the higher things in life, such as pleasurable hobbies and spiritual awakening. These works recognize that becoming informed is not simply a matter of accruing facts and making calculations, something that is also becoming evident in this era of "fake news", social media manipulation, etc. Consonantly, there have been efforts in information studies to recognize the role of the human body and human feelings and emotions in cognition, including how we interact with information (Nahl and Bilal, 2007). Recent examples of such work include Keilty and Leazer (2018) and Lloyd and Olsson (2018).

In information studies, the embodied, holistic, human-centred perspective has its roots in the work of Dervin (1983, 1999), specifically her Sense-Making Methodology. For Dervin, we humans cannot help but build understandings with and in our environments in light of our '*body-mind-heart-spirit*' (Dervin, 1999, p. 730). Sense-Making thus takes into account a person's *situation*—i.e., the ever-changing material conditions, broadly construed, of their existence—to explore how they actively make sense of their world through designing it (both conceptually and materially). It is this broad-based, designerly sense-making that is information (Dervin, 2003). In championing a wider definition of *information*, Dervin writes:

> *information-making, seeking, using not be limited to the cognitive realm (as it usually is in information seeking and use studies) but rather to any realm of experiencing that actors define themselves as using in their sense-making. The patient who says 'my body told me' is making sense, so is the problem-solver who said 'God told me' or 'I listened to my feelings' as well as the one who said 'I looked it up on the web' or 'I asked an expert'.* (Dervin, 1999, p. 739)

In this paper, we develop a conceptual framework for understanding these 'realms of experience' beyond the cognitive or epistemic. Specifically, we identify and explore the *contemplative* realm, which has been developed over the past few decades in the field of contemplative studies.

Contemplative studies

The emerging field of contemplative studies is dedicated to research and education on contemplative practice and experience, including a wide range of applications (Komjathy,

2018). Contemplative studies spans spiritual traditions such as Buddhism and Taoism, scientific traditions such as mindfulness-based cognitive therapy and stress reduction, and creative traditions such as visual art, performance and writing.

On Komjathy's (2018) account, contemplative studies has two foci: contemplative practices on one hand, and contemplative experience on the other. Contemplative practices include a spectrum of approaches, disciplines and methods, often gathered under the moniker of *meditation*. Contemplative practices are concerned with developing one's attention, awareness, compassion, concentration, presence, wisdom, etc. Contemplative practices generally entail four aspects: theory, practice, technique, and experience. The last of these links to the other focus of contemplative studies, contemplative experience. Indeed, experience is an indispensable component of any contemplative practice. Contemplative experience can be described in terms of interiority, presence, absorption, silence, transformation, personal meaning, purpose, insight, serenity, etc. Contemplative experience can be expressed in just about any activity, including sitting, dancing and eating, and it is meant to imbue a person's whole life with contemplation rather than limiting its effects to a single activity.

In the introductory chapter of *Handbook of Mindfulness*, Brown, Creswell and Ryan (2015, p. 1) write, '*Whereas psychological science has conventionally focused in one way or another on the contents of consciousness (e.g., cognitions, emotions, and their somatic and behavioural consequences), [contemplative studies] fundamentally concerns consciousness itself'.* Here we can point out an analogy to information studies: whereas traditionally information scholars have focused on the contents of information (e.g., aboutness), a contemplative approach to information is concerned with information itself: the *being-in-formed* of persons.

We also suggest that contemplative studies and information studies share a deeper kinship in their pursuit of the development of consciousness and the realization of human potential. In the Dharmic religious traditions, the term *dharma* refers to truth, as well as any teaching that helps a person reach this truth (Pauling, 1997, p. 3). Dharma, thus, is a philosophy, or a way, a path to human development and understanding. (It is also positioned as both an end and a means, which will be discussed below.) The same could be said for Christian teachings, or those of many other religious traditions. Just like dharma,

information is said to develop persons cognitively. And yet, following the path of dharma or these other traditions would likely not be characterised as an epistemic aim. We would suggest that this is a mistake, one which rests on the longstanding and erroneous separation of reason from emotion (Damasio, 1994). However, jumping to revise our whole notion of epistemic aims may be overzealous. For now, we propose the concept of *contemplative aims*, which have yet to be recognized in information studies.

Information and contemplation

Until several decades ago, information studies (by whatever name) was more closely connected to contemplation than it is today. Indeed, there has been a link between information and contemplation since Antiquity. For example, in ancient Greece and Rome, many people practiced letter-writing and journaling, activities that were consummately informational, but were not, per se, epistemic. For this reason, Foucault (1988) argues that through these activities people lived out the maxim (since largely forgotten) *care for thyself* rather than the (now much more popular) *know thyself,* though in Antiquity caring and knowing were perhaps not conceptualized separately (Heidegger, 1977). To speak specifically of information institutions, Lutz (1978) reminds us that the earliest known library bore the following inscription above its door: *House for Healing the Soul*. This aspect of libraries was embodied in the tradition of bibliotherapy, which was popular for much of the 20th century (Jack and Ronan, 2008); though bibliotherapy scholarship has waned in information studies, the contemplative is making something of a comeback in libraries, as will be discussed below.

Information studies was transformed by the advent of computing. As Day (2014) writes, books in the 19th century and prior were conceptualized as *friends* with whom one engaged in critical discourse and self-development, while in the 20th century they came to be conceptualized as repositories of knowledge from which one could extract information. Hence Bush (1945) in his famous article "As We May Think" focuses entirely on the epistemic possibilities of linked documents and information retrieval. This orientation coloured information studies for the ensuing decades. Still, this aspect of the computing revolution was not without critique, even in its early days. Cousins (1966), in his short essay "The Poet and the Computer," wrote:

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The question persists and indeed grows whether the computer makes it easier or harder for human beings to know who they really are, to identify their real problems, to respond more fully to beauty, to place adequate value on life, and to make their world safer than it is now. … The reason these matters are important in a computerized age is that there may be a tendency to mistake data for wisdom. (Cousins, 1966, paras. 5–7)

Today, an interest in the contemplative aspects of information seems to be re-emerging (Author, 2019). To speak first of the work associated with memory institutions, much has been done in museums, with an emerging body of work focusing on libraries. In both cases, the trend toward the contemplative seems to be unfolding more fervently in practice than in research.

Even in the earliest museums, wonder, curiosity, and resonance have been an important aspect of the museum experience (e.g., Daston and Park, 1998; Greenblatt, 1990)—recall that the very word *museum* could be translated as 'house of inspiration'. Throughout the history of museum studies, scholars have suggested museums to be a kind of sacred place. Even, in the recent, secular past, museologists have discussed the museum as mindful (e.g., Gopnik, 2007; Janes, 2010), as sacred or reverential (e.g., Annis, 1986; Buggeln, 2012; Graburn, 1977), and as ritual (e.g., Bazin, 1967; Duncan, 1995). Today, many museums are offering meditation classes (e.g., Roth, 2018), guided contemplative inquiry (e.g., Smith and Zimmerman, 2017), and exhibits designed to inspire compassion and activism (e.g., Crow and Bowles, 2018).

To speak of libraries, many public libraries across the United States are also now offering meditation classes. An American Library Association–published blog post by Carson (2016) discusses the pragmatics of running such programs in a public library. Additionally, many academic libraries now have interfaith prayer and meditation rooms (Wachter, 2018). Ongoing work by Tench (2018) explores how public librarians and, by consequence, public libraries can promulgate a culture of contemplation by: challenging the dominant message of productivity and growth; seeking out everyday sites for contemplation; and practicing forgiveness. Finally, about one-quarter of U.S. public libraries offer movement-based fitness programming (Bertot et al., 2014), and some evidence suggests that yoga is the most prevalent among such offerings (Lenstra, 2017); however, it is unclear whether yoga in this case is

primarily offered as a route to contemplation or to fitness. Similarly, it is unclear whether there is a connection between the library or museum itself and the possibilities for contemplative practice, or if the space is offered as just another place to practice.

Looking outside institutional contexts, we can identify an emerging trend toward the contemplative in discussions of information technology generally. An important thread in this current, though not explicitly tied to contemplation, is the Slow Tech movement. This movement stemmed from Hallnäs and Redström's (2001) seminal article, which argued that technology should do more than make people's lives more productive and efficient, but rather be embedded in lived environments over time. Grosse-Hering et al. (2013) provide a framework for Slow Design in this context. Examples of designs in this vein have been GoSlow, a mobile application that encourages introspective reflection (Cheng et al., 2011) and a photobox that prints photos every so often (Odom et al., 2014). Most recently, Levy's (2016) book *Mindful Tech* invites readers to cultivate more contemplative relationships to their digital devices, whether they were designed as Slow Tech or not.

Over twenty years ago, Weiser and Brown (1996) reflected on the history of computers and predicted a future of ubiquitous computing—in which we now find ourselves. For Weiser and Brown, ubiquitous computing meant the advent of calm technology, in which information technologies would not disrupt our everyday living but rather would be integrated with it. On their view, calm technologies would enhance our periphery, expanding the reach of our peripheral attention without demanding centre stage. In consequence, such technologies would '*put us at home, in a familiar place*'. It is striking that, though we do now live in a time of ubiquitous computing, few would describe our relationship to mobile technologies as 'calm'. A contribution of this paper, then, is to help us understand where we may have gone wrong and serve as a course correction.

Contemplative aims as contemplative methods

In this paper, we draw an analogy from the concept of epistemic aims to discuss contemplative aims. Aims are goals; epistemic aims are what a person seeks to achieve epistemically. So contemplative aims could be defined as what a person seeks to achieve through contemplation. But scholars in contemplative studies suggest that contemplation is

not *for* anything. Regarding meditation, for example, becoming a good meditator is not the point, nor are the health benefits (Kabat-Zinn, 2005; Varela, Thompson and Rosch, 1993). This raises the question of whether the concept of "aim" is appropriate to discuss the contemplative. Is the very idea of a contemplative aim an oxymoron?

According to value theory, some things are valuable intrinsically, as ends in themselves, and other things are valuable instrumentally, as means to achieve something else (Weber, 1922/1978). By and large, epistemic aims refer to means. That is, most of the time we don't seek information for its own sake, but rather to accomplish some task (solve a problem, improve one's standing in society, etc.). Contemplative aims, on the contrary, most often refer to ends (in themselves). That is, they are considered valuable for their own sake. But, for some people some of the time, knowing is considered valuable in its own right. And likewise, while the contemplative is valuable for its own sake, contemplative practice and experience can also be eminently useful in the project of being human. That is to say, contemplative ends can also be contemplative aims.

This point can be made more clearly with the example of friendship. (This comparison is motivated by Day's discussion of books as friends, mentioned above.) Friends, of course, must be considered as ends in themselves, not as means to other ends. A person who seeks friends only to better their social standing, entertain themselves, have a source for loans, etc., is not going to have friends for very long—and probably won't ever have any true friends. Aristotle made this point in *Nicomachean Ethics,* where he suggested that friendships based on utility alone will always shrivel. At the same time, however, friendship has inarguable instrumental valuable; no human could get through life without friends.

It would be a mistake to say that none of us can or should ever *aim* for friendship. On the contrary! We can and should aim to make friends, and we should also value our friends as ends in themselves. We should value our friends both instrumentally and intrinsically. One hand washes the other. Scruton puts it this way:

> *Your friend is valuable to you as the thing that he is. To treat him as a means—to use him for your purposes—is to undo the friendship. And yet friends are useful: they provide help in times of need, and they amplify the joys of daily living. Friendship is supremely useful, so long as we do not think of it as useful.* (Scruton, 2014, p. 137)

We suggest that contemplative experience and practice are similar to friendship in this way. We can attune ourselves toward contemplative aims on the path to the good life while also recognizing that contemplative practices and experiences are ends in themselves. J.B. Yeats wrote, in a letter to his son, '*Happiness is neither virtue nor pleasure nor this thing nor that, but simply growth. We are happy when we are growing*' (Yeats and Hone, 1946, p. 121). Here we suggest that happiness is indeed virtue and pleasure, and it is also growth. Contemplative aims are also contemplative ways of being.

Discerning the contemplative aims

In embarking on this research, we sought to understand how information and documents can contribute to contemplative ways of being. Our search focused on three interrelated questions:

- How might a person using a contemplative practice try to understand?
- In what ways are contemplative experiences reached?
- Where do information and documents appear in contemplative practice and experience, and what roles do they play?

In research, as elsewhere in life, we typically think of asking questions as a plea for answers. In this project, however, and in the spirit of contemplative practice, we followed Kabat-Zinn's (2005) expression of inquiry:

> *Inquiry doesn't mean looking for answers, especially quick answers which come out of superficial thinking. It means asking without expecting answers, just pondering the question, carrying the wondering with you. … Inquiry is not so much thinking about answers, although the questioning will produce a lot of thoughts that look like answers. It really involves just listening to the thinking that your questioning evokes.* (Kabat-Zinn, 2005, pp. 233–235)

This mode of inquiry borrowed methods from the hermeneutic literature review of Boell and Cecez-Kecmanovic (2010). In this method, a researcher begins with one or a handful of open-ended questions which is constantly reformulated as literature is retrieved and read. This leads to the retrieval of further literature as the precise nature of the question is understood.

In our case, as this was a collaborative project, the process also included regular meetings to discuss our progress and findings over the course of approximately one year.

In writing this paper, we began with the open-ended questions listed above and slowly settled on a narrower question:

- What is the relationship between contemplation and how people engage with information and documents?

Answering this question involved surveying the literature in several scholarly fields, including contemplative traditions, consciousness disciplines and creative contemplative approaches, as well as relevant literature in library and information studies, museum studies, human–computer interaction and other information technology fields. Because of the nature of the topic, we also considered non-academic sources, such as unpublished and grey publications, sacred texts, our own practices, conversations with contemplative leaders, informal lectures and workshops on various practices and philosophies, and taking classes both in-person and online. Throughout the year of undertaking this project, we attempted to thematise and categorise the literature. This was a matter of conceptual design, a method drawn from the philosophy of information (Floridi, 2019). The first author has been an intermittent practitioner of zazen and walking meditation for five years; the second author has practiced hatha yoga on and off for twenty-five years, with regular practice in the past eight years, and has practiced meditation consistently for the past year.

We define contemplative aim as one's directedness toward the present moment and all that this entails. Thus, the concept of *aim* as used here does not imply a straightforward path and clearly foreseen destination. But it does imply seeking, intentionality, and a desire to understand.

A framework of contemplative aims

Here we propose a set of six contemplative aims involved in contemplative practice and contemplative experience that rely on or relate to information: being, attention, meaning, compassion, unity, and wisdom. We do not claim this to be an exhaustive list; there may be more relevant contemplative aims, and there may be different ways to conceptualize the

same set of aims. For the purposes of beginning a wider conversation on contemplation in the field of information research, though, we find this list to be useful and inspirational.

Being

Though contemplative practices may also entail social and shared aspects, most are personal, inward and subjective. This inwardness is an investigation of being. In a culture that privileges speed and busyness, we are losing touch with the question of being (Bai et al., 2014). Fromm (1997) suggests that we are preoccupied with the *having* dimension of life, the dimension of productivity and accumulation, while we ignore the *being* dimension—that of rest and awareness. Such discussions were presaged by Heidegger (1977), who wrote of the dangers of regarding entities as resources to be amassed, stored and exploited, rather than as things of value in themselves.

What *being* is has been glossed over in the history of thought—indeed, it is a slippery question to grasp—as Heidegger (1927/2010) pointed out. We may think of being as a simple question of form and matter, i.e., substance, but such definitions of being do not capture all that is meant when we speak of being. For instance, the being of some things manifests as *who*, while that of others manifests as *what*; and there is quite a different quality to *I am* than there is to *it is*. For humans, engaging with the question of being is engaging with one's existence as a subject, one's distinction from other people and things, and one's presence and history. Put differently, being is a sense of one's standing on solid ground, a sense of wholeness and belonging. Heidegger writes that the more one experiences this sense, the better one is disposed to understand. Similarly, Barbezat (2014) writes of inwardness as a ground for learning.

The objection may arise that inwardness may simply lead to selfish individuals. Joiner (2017) warns as much in his book *Mindlessness*, and headlines such as 'Mindfulness can lead to selfishness' abound (e.g., Rudgard, 2017). Rather, in a seeming contradiction, it has been shown that when a person engages in mindfulness and other contemplative practices, they come to better understand their place in the web of life and even come to realize that their sense of a stable, transcendental self may be illusory (Kabat-Zinn, 2005; Smith, 2017; Wright, 2017). For example, one may discover the continuity between one's outer environment and

their inner environment. As such, they become more aware of and compassionate for the plight of other beings. Inwardness, then, is a path towards increasing attention and care for current issues, such as the environment, sustainability, etc. '*How we, in our interiority, experience our selves, other people, and environments has direct relational and actional consequence to the world*' (Bai et al., 2014, p. 290). Relatedly, recent discussions in the philosophy of information have foregrounded the concept of the ontic trust, the interconnectedness of all information (see Bawden and Robinson, 2018); the role of the self, and specifically the importance of self-construction, in the ontic trust should not be forgotten (Gorichanaz, 2019b). By seeing the outer reflected by one's own interiority, working mindfully with inner materials brings about greater authenticity, integrity, and wisdom to reflect back onto the world.

Two intrinsic elements of the investigation of being are introspection and silence. Beings, including oneself, should be considered as the individuals that they are, rather than as tokens of types—not for the sake of navel gazing, but for understanding with nonjudgment what a particular entity is and how it relates to other entities. Such consideration is available in the first-person perspective that all human beings have, through introspection. According to the field of social work, introspection is a critical component of mental health and involves a process of identifying, reflecting, and understanding one's own feelings, thoughts and experiences (Silverman, 2010). From museum studies, introspection can be defined as turning '*inward, to feelings and experiences that are essentially private, usually triggered by an object or setting in a museum*' (Pekarik et al., 1999, p. 158). Silverman (2010) points out that studies demonstrate that visitors use museums as loci for introspection.

Silence can make space for such introspection. For example, it was only through silence that Kant could famously observe, '*Two things fill the mind with ever new and increasing admiration and awe, the oftener and more steadily we reflect on them: the starry heavens above me and the moral law within me*' (1788/2009, p. 256). Silence is not simply the absence of sound, but is pregnant with meaning and possibility (Ehrenhaus, 1988; Mason and Sayner, 2018). As Heidegger (2010, p. 263) writes, '*Conscience speaks solely and constantly in the mode of silence'.* In the present day, however, silence is a rare commodity; ours is an age of noise, distraction and constant motion (Kagge, 2017). Floridi describes this as an assault on our fundamental

right to informational privacy, our right to not be exposed to information. Unwanted information of any kind

> *may be suffered as contaminations of one's own self, ... brainwashing of the worst kind. Silence is hugely undervalued in our world; witness the difficulty of finding a restaurant, a pub, or a bar without some kind of background music.* (Floridi, 2013, p. 257)

To what extent do museums and libraries nurture introspection and silence? The current paradigm in museum studies, at least in the United States and United Kingdom, is more heavily focused on socially-oriented activities (Falk, 2009; Falk and Dierking, 2000). That said, some museum researchers are working to intentionally use interiority in the museum, such as Dudley's (2010) Object Engagements and Wood and Latham's (2014) Object Knowledge Framework. Even with a social emphasis, there has consistently been work on the individual visitor experience, such as 'restorative experiences' in museal sites (Kaplan et al., 1993; Packer and Bond, 2010) and the importance of 'alonetime' (Bucholz, 2000) and 'owntime' (Spock, 2000) in museums for creativity and intellectual integration. In addition, many gallery studies educators have developed techniques that help a visitor experience more fully in the presence of an object (e.g., Visual Thinking Strategies by Abigail Housen and Exercises for the Quiet Eye by Annie Storr).

Regarding silence, museums were once known as quiet places; until the mid-20th century, museums '*held an air of silence and a promise of a kind of secret communion that would take place between the individual observer and the work of art or the object of the past*' (Gopnik, 2007, p. 38). In contrast, today's museum is anything but quiet, priding itself rather on busyness and activity, which purportedly shows that learning is happening and outcomes are being achieved. Full of crowds, places to eat and shop, and loaded with labels and texts, museums have become very full places in more ways than one. Perhaps in response to this, some museums are now (once again) offering space for silent looking and inquiry. In a 2012 thesis, Estep investigates the use of silence, as a meditative state, in museums in an effort to understand cognition and recognition of self in visitors. Estep posits that in a country that fears silence (e.g., the United States), it should be used strategically in museums to help visitors slow down, inspire empathy, make connections, and help forge deeper understanding of the self:

By increasing the use of silence and contemplative looking, I believe that more museum participants would be reached in a positive manner. These visitors would come to larger understandings of their place in the world through a deeper connection with themselves— all through looking at a work of art. These deeper connections are not uniformly-based concepts—they are extremely individual-based, and therefore this type of programming reflects that each individual will have his or her own experience. (Estep, 2012, p. 60)

In fact, many museums are offering opportunities for silent contemplation, in the form of silent tours (Smith and Zimmerman, 2017; Thompson and Tobin, 2018), meditation (Estep, 2012), as a form of respect (Echarri and Urpi, 2018; Mason and Sayner, 2018), and silent inquiry activities (Thompson and Tobin, 2018).

Not unlike museums, libraries were traditionally spaces of silent reading and study— recall the stereotype of the librarian's 'shhhh!' For some, this was taken as a virtue. Shera (1971), for example, wrote that the library, '*in a world that is growing increasingly raucous and cacophonous, is almost the last outpost of silence and the quiet stir of thought, even as it is, together with the university, the one surviving hope of intellectual freedom'.* But this position was not without its critics; throughout the 1970s and beyond, enforced silence began to be seen as retrograde. Plotnick (1972), for instance, wrote in favour of 'No Silence' signs in libraries, positing that enforced silence is a sure path to the death of the institution. This perspective led to the proliferation of collaborative spaces, socially-oriented programming, etc., repositioning the library as a hub for community activity. But this may have been a case of throwing out the baby with the bathwater: over the past several years, silent spaces have been returning to libraries (particularly academic libraries), now balanced with other spaces for conversation and activity, in response to surveys of user needs (Howard, 2012; Massis, 2012).

Silence, as we mentioned, goes hand in hand with introspection, which is a tool available to individuals. Serving individuals has long (perhaps always) been part of the library mission; for instance, the reference interview is conceptualized as understanding the needs and goals of the particular individual present (Kern and Woodard, 2016). In the academic literature, however, there seems to be a trend away from the study of individuals and toward that of social groups, as part of the 'practice turn' in the field (Talja and Nyce, 2015). Still, there is research recognizing the individual, such as theoretical work by Capurro (e.g.,

Capurro, Eldred and Nagel, 2013) on whoness and Day (2014) on the conditioning of subjecthood, and empirical work in phenomenology (see Gorichanaz, 2019b and Latham, 2018). Ergas (2016) notes that there has long been a taboo in academia writ large against the study of interiority and being, but the tide is beginning to shift.

To speak of technology design, the field of HCI was once narrowly concerned with how an individual user interacts with a computer. As the capabilities of computers have grown and become more embedded in human life across many dimensions, the field has become more socially focused (Rogers, 2012), reflecting the same trend seen in museum and library studies. Still, in research there has been work employing phenomenology and ethnomethodology, both of which explore interiority (Dourish, 2001). A small body of recent work in design focuses on individuals' experiences of meaning-making and reflection with technological artefacts (e.g., Odom et al., 2014). In terms of silence, strikingly little work has been done. Technology manufacturers are now incorporating fine-tuned notification settings and do-not-disturb controls in many digital devices, yet the relation of these functions to contemplative experience and practice does not seem to have been explored.

Attention

Purposefully giving attention to something is a cornerstone of many contemplative practices. Chief among these is *attentional practice*, also called mindfulness practice, which Komjathy (2018) describes as a series of methods that '*emphasize open awareness of observation of phenomena without discrimination*' (p. 57). It involves attention, awareness and concentration, specifically to what is present in the world at a given moment (Brown et al., 2015). Attentional practice is said to achieve several results, such as better regulation of one's attention, sensory awareness, perception, thinking and performance (Ninivaggi, 2013). It can also contribute to a sense of liberation and unboundedness (Bai et al., 2014). This capacity is available in all humans, but it must be actively cultivated (Bai et al., 2014). Attentional practice allows the person to be in control of what they choose to pay attention to, instead of letting thoughts and worries control them. Putting attention on things like one's breath, visualization, or a mantra can help a person to calm an active mind and make clearer decisions, and it can also reduce stress.

When attentional practice is discussed in the museum studies literature, the focus has been on mindfulness and attention in the visitor experience, such as the work on meaning-making in museums (e.g., Carr, 2003, 2006; Silverman 1995) or about the amount of time a visitor spends at an object (Serrell, 1998). Conceptually, Bitgood's (2013) work on museum attention and interest, and Korn's work on intentionality (2007, 2017) are more closely aligned with the mindful attention we speak about here. Bitgood has spent his career on the topic of attention in museums developing a framework, the Attention-Value Model, that synthesizes all of his studies about the topic. He considers attention to be the key to understanding museum visitors. While most of his work considers the unfocused or unguided attention of visitors, it is enormously useful in helping museologists understand and unleash the potential of attention. An example of this is described by Echarri and Urpi (2018), who used a Rothko painting as a site for a mindfulness exercise, attempting to explore the contribution of mindfulness interaction with art. To cite an example focusing not on museum visitors but rather employees, Korn's (2007) seminal article on holistic intentionality considers the 'inner museum'—the museum employees and the work they do. She espouses a dynamic cycle of reflection and process around the museum's purpose, the staff's 'deepest passions', and the continual creation of a museum that demonstrates value in people's lives. Korn (2017, 2018) took this further in her recent book chapter and book on intentional practice, which details the intentional, focused approach to museum work and its interconnectedness across the museum its community.

In the library literature, discussions of attentional practice have mostly concerned how librarians can cultivate mindfulness to do their jobs better. *The Mindful Librarian* (Moniz, Eshleman, Henry, Slutzky and Moniz, 2016) applies mindfulness to all aspects of librarianship, with a focus on academic librarianship, including guiding student research and engaging with faculty. Prieto (2017) discusses humanistic perspectives on virtual reference service, one of which is mindfulness. On his account, '*Mindfulness is the embodiment of what reference librarians have learned about conducting a good reference interview and committing themselves to discovering the type of information a user needs*' (Prieto, 2017, p. 696). Martin (2018) brings these concepts to bear on library leadership, discussing how practices such as deep breathing, mindful moments and meditation can help library leaders in their work, such

as by improving their self-awareness and reducing their stress level. Lastly, to speak of library education, Hartel, Nguyen and Guzik (2017) have written on incorporating a practice of mindfulness meditation in the classroom in an introduction information studies course. They found the practice to be beneficial to students' learning, including helping them become better able to '*concentrate and absorb the lectures*' (p. 113).

Mindfulness has been discussed in the information technology design literature. Many systems have been developed for training mindfulness, including wearables (Sas and Chopra, 2015), handheld artefacts (Thieme, Wallace, Johnson, McCarthy, Lindley, Wright, Olivier and Meyer, 2013), smartphone apps (Daudén Roquet and Sas, 2018) and games (Sliwinski, Katsikitis and Jones, 2015). Indeed, encouraging '*reflection, calmness, and mindfulness*' has been called one of the grand challenges of interface design for the coming years (Shneiderman, Plaisant, Cohen, Jacobs, Elmqvist and Diakopoulos, 2017, p. 584). However, Akama and Light (2015) are sceptical that technology should or could be designed for mindfulness. '*This is not something to delegate to machines*' (p. 633); rather, it is a matter of the way people engage with technology. To that end, discussions have emerged such as Levy's (2016) *Mindful Tech*, which explores ways to cultivate oneself so as to be more mindful when interacting with technology of all kinds, whether or not they were designed to be mindfulness-apt.

Meaning

Meaning refers to coordinated activity (Floridi, 2011; Johnson, 2007)—but "activity" must be understood broadly. Uexküll (1934/2010) was a pioneer in theorizing meaning, taking a wide, organism-based perspective to show that meaning is a property of a system, rather than something that exists only for a subject. For example, the canopy of a tree works with the rain to distribute water to the tree's roots; capturing and redistributing the liquid is the meaning of this system. To be sure, when we use the word *meaning*, we often are more narrowly referring to *personal* meaning. This is the sort of meaning that contributes to one's being a person, i.e., a psychological and social being that has a sense of its place, history and beliefs about its own attributes (Harré, 1998). Personal meaning, thus, is how one acts to make their various attributes more coherent, making their life feel valuable and worth living

(Gorichanaz, 2019a). Personal meaning has several dimensions, including understanding one's purpose in life, seeing what one considers valuable, and experiencing self-efficacy (Baumeister, 1991). Philosophers and psychologists have emphasized that personal meaning does not simply happen; as with any skill, it must be practiced and built (Landau, 2017; Smith, 2017). That is, manifesting personal meaning is a matter of meaning-making, and it is in this process that information and documents can be involved. It should be noted that, though the term 'meaning-making' appears often in the literature, it only rarely refers to the making of *personal* meaning. Similarly, though the concept of personal meaning overlaps with that of identity, in the literature the term *identity* more often refers to membership in a social group rather than one's uniqueness (i.e., $a \in A$, rather than $a = a$).

There has not yet been much literature discussing personal meaning in museums or libraries. Some museum research discusses the museum as a site of personal transformation, even transcendence (Silverman 2010), and deeply felt museum experiences have been reported (e.g., Cameron and Gatewood, 2000, 2003; Latham, 2013) and the Isabella Stewart Gardener Museum in Boston relays programming techniques (poetry, mindful walking and silent tours) that have led to visitors' transformative experiences (Smith and Zimmerman, 2017). While meaning-making has been discussed for several decades in the museum literature, it has often been conflated with more cognitive aspects of learning, carrying definitional assumptions that cause much confusion (Hohenstein and Moussouri, 2017). Today, many museum educators agree that "learning" is a broader rubric that involves not only cognitive aspects but also emotional, attitudinal, bodily, and social. Hohenstein and Moussouri (2017) position learning in this broad sense, as a stable change in thinking or acting, to include one's beliefs, skills and outlook. Lois Silverman is probably one of the biggest proponents for personal meaning–making in the museum, starting with her 1995 article calling for a paradigmatic shift to meaning-making in museums. In fact, in the late 90s, there was a great buzz about taking a meaning-making approach in museums (e.g., Spock, 1999; Ansbacher, 1999; Rounds, 1999; Silverman, 1999; McLean, 2001; Rowe, 2002). However, such work seems to have come abruptly to an end around the turn of the 21st century.

In the library literature, Ross' (1999) work examining the personal trajectories of lifelong readers certainly relates to personal meaning, as do contributions such as Rothbauer's (2004) work on how reading contributes to identity-formation. Of course, libraries do much more than provide books. Thus, the exploration of personal meaning in the library context constitutes a vast frontier. That said, some have explored other dimensions of meaning in the library context. Weinberger (2016) discusses libraries as sites of community meaning, and Kuhlthau (2004) construed information behaviour as the search for and construction of meaning.

In the technology design literature, discussions of meaning can often be read between the lines, as designers profess the desire to create "meaningful experiences". However, direct treatment of the subject is exceedingly rare. There is a small body of research in HCI that invokes the concept of personal meaning without entering it in depth; this work addresses how technology can contribute to personal reflection and story (Odom et al., 2014), life-relevant learning (Clegg et al., 2012), ambiguity (Gaver, Beaver and Benford, 2003) and Slowness (Hallnäs and Redström, 2001), all of which relate to personal meaning. To our knowledge, up to now the only author who has explicitly discussed personal meaning in design is Walker (2011), who discusses how designs can contribute to personal meaning by having value as objects '*over and above their utilitarian value*' (p. 99). He emphasizes that such objects are upgradable, long-lasting and of high quality.

Compassion

As alluded to above, contemplative practice is said to lead to compassion—not only for others, but also for oneself (Brown et al., 2016). Compassion is defined as a response to suffering or unsatisfactoriness. Strauss et al. (2016) delineate five elements of compassion, all of which revolve around human suffering:

1. recognizing suffering
2. understanding its universality
3. feeling for suffering persons
4. tolerating uncomfortable feelings
5. being motivated to act to alleviate suffering

In the museum field, one need not look far to see exhibitions, articles, and conference sessions discussing issues around compassion, as well as the positioning of museums as safe spaces, centres of peace, sites of inclusion, global understanding, and diversity. In particular, there has been a notable focus on empathy of late (Gokcigdem, 2016; Silverman, 2010; Woodall, 2018). Empathy is '*an awareness of the feelings and emotions of other people*' (Crow and Bowles, 2018). In the 2017 *Trendswatch* from the Center for the Future of Museums, empathy was identified as a key factor impacting the future direction of museums. In fact, museums are already well-positioned and active community anchors, exploring issues of personal relevance, cultural identity, and civic engagement. Museum educators strive to forge connections between the museum's collections and the users they aim to reach using thinking strategies as a means to increase understanding, connection, and empathy. Crow and Bowles (2018) offer a way to do this, using a strategy that, itself, is built on making connections: analogy. Using analogic questioning, the Isabella Stewart Gardener Museum (mentioned above) has developed a series of guided inquiry-based programs called the Sanctuary Series inspired by their mission as well as emerging trends in the field related to issues of empathy, health, and well-being. All programs are small-groups, some are contemplative, many creative and open-ended; '*an unexpected outcome has been the powerful sense of community, and even intimacy, that forms between strangers*' (Smith and Zimmerman, 2017, p. 366). To cite another example, the Jewish Museum London piloted a school program where children can safely ask questions, called 'amnesty questions', they have about Jewish faith and culture (Hohenstein and Moussouri, 2017). The children are given anonymous ways to ask honest questions and this has elicited a deeper understanding of what misunderstandings and curiosities they have. This pilot study helped both visitors and staff explore hard questions and led the museum to develop more relationships with the Jewish community in order to inform all parties involved. Moreover, some museums are even outright making exhibitions *about* compassion, such as the Philadelphia <u>Independence Seaport Museum's 2016–2017 *Compassion in Action* exhibition</u>, where the day-to-day life of men and women who work on the ships that bring us the everyday items we take for granted.

An important element of compassion is compassion for the self. Oftentimes our own flaws can be the most difficult to accept, and contemplative practice attempts to teach such

acceptance (Kabat-Zinn, 2005). Museums have been no strangers to such teachings. Lois Silverman (2010), in *The Social Work of Museums*, writes that '*in the twenty-first century, service to the self is...plentiful in museums*' (p. 41). She cites empirical evidence that demonstrates museums offer physical benefits such as lowered stress hormone levels and increased brain activity. Museums, she notes, are helping people across the globe to develop skills, find jobs, express identity, and grapple with difficult issues. To a lesser extent, attention is starting to be given to self-compassion among museum employees. Many have argued that an understanding of self-care for museum professionals is sorely needed (e.g., Rao, 2017; van Damme, 2015; Michelbach, 2013). Rao (2017) has recently published a self-help book for museum professionals. In it, she takes into consideration both the unique features of working in museums and also the understanding that museum workers tend to start with—care for objects and visitor—rather than themselves. She reverses this approach by starting with 'You', providing a sequential series of exercises and activities for each individual to privately undertake. By design, she guides the participant to start with self-compassion and only then, consider 'You + Work'. Additionally, the second author of this paper is developing a fuller framework for guiding museum professionals through both visitor care and self-care through research derived from the positive disciplines.

In the realm of libraries, there has been a minor tradition of literature reflecting on how people can use information, chiefly fiction, to become more compassionate (Broussard and Doty, 2016; Ross, 1999; Rowe, 2018). To speak of librarians and libraries as institutions, these have perhaps always been driven by a sense of compassion for their publics. Recent work has considered how libraries can help patrons feel a stronger sense of belonging (Bodaghi, Cheong, and Zainab, 2016); a sense of compassion is also evident in libraries' responses to social movements such as Black Lives Matter (see Pagowsky, 2015) and #MeToo (see Oltmann, 2018) and issues such as the 2016 U.S. presidential election (see Jaeger, Gorham, Taylor and Kettnich, 2017). Though compassion would seem to be unambiguously good, the phenomenon of compassion fatigue has been reported among library staff (Katopol, 2015). Such fatigue happens when one reaches '*a breaking point of caregiving*' (Katopol, 2015, p. 2). This occurs for many in the helping professions, such as first responders and animal shelter employees, and it results from a mismatch between the perception of the

problem and one's resources for handling it. Too much compassion, then, may leave one physiologically worn out. This raises the question of whether, with any of these contemplative aims, it is possible to have too much of a good thing—and if so, where that limit is.

While discussions in HCI and other realms of technology design have traditionally focused on aims such as productivity and efficiency, there is a growing awareness of compassion in design. Hourcade and Bullock-Rest (2011), for example, reflect on how technology can be used to assist individuals in deciding whether to support a war. Peters and Calvo (2014) delineate principles of designing to encourage compassion, which includes supporting feelings of agency, providing opportunities for practicing altruism, etc. Relatedly, there has been work on systems meant to seem compassionate from the user's perspective (IBM Cognitive Business, 2016). A working example, available for demo, is Juji (https://juji.io). These examples notwithstanding, the bulk of discussions of compassion and empathy in the field relate to designers having these qualities. Wright and McCarthy (2008), for instance, discussed the role of empathy in design, and Mah and Hespanhol (2017) speak of an altruistic design process—both part of a larger conversation around ethics in design.

Unity

A sense of unity, oneness and interconnectedness is often associated with contemplative experiences. In the extreme, contemplatives have reported experiencing Absolute Unitary Being, the dissolution of self, time and differentiation (James, 1902/2002; Newberg and D'Aquili, 1999). In more commonplace experiences, boundaries and dichotomies which one originally took for granted come under scrutiny—self and other, for example, or work and life (Langer, 1989/2014), as well as mind and body (Csikszentmihalyi and Robinson, 1990; Dewey, 1934). Indeed, this sense is what allows such experiences to be defined as experiences. Dewey (1934) differentiates ordinary experience from experiences. For Dewey, experience is the ongoing flow of human beings in their environments; ordinary experience is happening all the time, but occasionally certain aspects of an experience are heightened, making it worth noting as *an experience*. Such experiences are generally noted for their senses of completeness, uniqueness and emotional saturation (Jackson, 1998). Dewey (1934) focused on

aesthetic experiences, i.e., those afforded by art. On Dewey's account, the essence of art is not in the object but rather in the dynamic and developing experiential activity through which art is created and perceived.

When it comes to information studies, this conception of experience, or the idea that such an experience can come about through information, is iconoclastic. For centuries, there has been a focus on the rational, intellectual mind as the most important source for knowledge (see Ergas, 2016). Consonantly, the information research field has long ignored, for instance, the role of the body in one's being informed (see Cox, Griffin and Hartel, 2017). Much work has been done of late showing the epistemological role of the body (see Johnson, 2007). Research in cognitive science has confirmed that intellectual activities in the mind are rooted in activity of the body (Damasio, 1994, 2018; Langer, 2014).

In effort to better afford holistic aesthetic experiences, museums have been intensely concerned with senses and multi-modality in the past decade. For example, Joy and Sherry (2003) demonstrate the phenomenological and cognitive aspect of embodiment in art museums. Latham (2013) reported on visitors' numinous experiences with museum objects, one aspect of which was unity of the moment, the kind Dewey speaks of. Hubard (2007) offers five instances of embodied engagement with art and suggests that embodied responses are an integral and valuable way of knowing. Weisberg (2006) offers a way to use kinaesthetic learning in a museum environment as a tool to augment children's learning and meaning-making in museums. In the United Kingdom, publications are appearing on health and well-being, many of which involve an understanding of the mind/body unity (e.g., Dodd and Jones 2014).

A similar trend is unfolding in the library sector. As mentioned above, libraries are beginning to offer yoga and other programming that makes space for the body, suggesting tacit recognition of a link between intellect and corporeality. And in our digital age, the question of library as place—a place for physical bodies—is rising to the surface (see American Library Association, n.d.). In the research literature, scholars are beginning to highlight the interplay between body and mind in interactions with information systems and documents (e.g., Keilty and Leazer, 2018; see also Cox, Griffin and Hartel, 2018).

In technology design, the field of ergonomics has long been attentive to the role of the body in technology use (Singleton, 1982), but the focus has been on injury prevention and productivity as opposed to the role of the body in mental processes. Klemmer, Hartmann and Takayama (2006) shifted that focus in the field of interaction design, presenting sites for design thinking wherein the body plays a substantive role: thinking through doing, performance, visibility, risk, and the thickness of practice. Such work has given rise to the design paradigm of embodied interaction. This area continues to see development (e.g., Mueller, Byrne, Andres and Patibanda, 2018) as kinetic technologies gain popularity.

Wisdom

In many contemplative traditions, wisdom refers to an ultimate goal of enlightenment (Pauling, 1997). Discerning wisdom from other contemplative and epistemic aims, however, is notoriously difficult. The Collins dictionary, to start with, defines wisdom as '*the ability or result of an ability to think and act utilizing knowledge, experience, understanding, common sense, and insight*' ("Wisdom," 2014, p. 2267). In contemplative studies, Smith (2008, p. 2) distinguishes wisdom from knowledge, saying that wisdom requires a recognition of the '*essential unity between thought and emotion.*' Bai et al. (2014) expand this notion in a discussion of higher education. On their view, educators help their students have meaningful experiences through cultivating in them a unity of feeling and thinking, highlighting in particular the special role of human embodiment in this unity. '*The challenge is to infuse knowledge with awareness or mindfulness of which love and sensitivity are a part, and the result is, in short, wisdom*' (Bai et al., 2014, p. 289). One of the elements revealed here is the integrated and intertwined nature of wisdom—it is more than just knowledge. Wisdom involves the rational and emotional, the practical and spiritual, mind and body, logic and experience. In philosophy, this view goes back at least to Socrates (Ryan, 2014). While knowledge is invoked in the injunction 'know thyself,' with which we are well-familiar, Socrates championed another principle: 'care for thyself.' Care, here, is precisely the integration of multiple aspects of knowing and being, cultivated through attention and reflection (Hadot, 1995; Heidegger, 2010). For Socrates, it was caring in this manner, both of oneself and of others, that was the realization of wisdom (Plato, 2002, pp. 21–44).

Mentions of wisdom have appeared from time to time in the information studies literature, perhaps beginning with Ackoff's (1989) discussion of epistemic aims (see Gorichanaz, 2017). Rowley (2006) has noted that since Ackoff's proposal, there has been virtually no development on the concept in information studies despite numerous calls to do so. Since her discussion, some research has been done. Warhurst and Black (2015) delineate seven components of wisdom: having knowledge, applying knowledge, practicing judgment, having a broad perspective, accepting uncertainty, working through networks of understanding, and striving to live a good life. In our view, these components could be a good start for considering how information institutions and technology can contribute to people's wisdom.

However, virtually no work has been done on wisdom in museums, libraries or information technology in this respect. Rather, in museums, the focus has been on short-term learning and using traditional measures to assess outcomes (Roberts, 1997; Ansbacher, 1999; Hein, 1999; Pekarik, 2010; Silverman, 2002; Hohenstein and Moussouri, 2017). Much the same can be said for libraries, evidenced for instance by discussions in the journal *Information and Learning Sciences* (see Baker, 2017). In the realm of information technology, attention has been turning to the question of wisdom for some time (see Harper, Rodden, Rogers and Sellen, 2008), but in large part Cousins' (1966) worry, quoted above, still holds, '*that there may be a tendency to mistake data for wisdom*' (para. 7). Certainly, this area presents much room to grow.

Discussion

As mentioned at the outset of this paper, most research in information studies conceptualizes information epistemologically. For example, information is assumed to contribute to epistemic aims, such as knowledge and understanding (Ackoff, 1989; Gorichanaz, 2017). But an undercurrent in the field has long pushed for a broader conceptualization of information (e.g., Capurro, 1996; Dervin, 1999). In this paper, we have linked those discussions to the emerging field of contemplative studies to provide a framework of contemplative aims for information. We have discussed how information is involved in a person's seeking and cultivation of being, attention, meaning, compassion,

unity and wisdom. We see the identification of these aims as a starting point for a long-term research program in information studies. In this section, we consider two initial questions along this path. First, how are these contemplative aims related to each other? And second, how are these contemplative aims related to the epistemic aims of information?

Based on the discussion of each aim presented above, we propose a framework of these aims as pictured in Figure 1. This framework places each aim with respect to the inner world and outer world of a person. *Being* sits at the heart of the inner world, as it constitutes a person's engagement with their selfhood, presence and history. *Meaning*, or more precisely personal meaning, is the activity that springs from being. *Attention* is one way a person is directed toward the outer world, being aware of what is present. *Compassion* is another way, in which suffering or unsatisfactoriness in the outer world is recognized. Part of attention and compassion are the way they influence one's being and doing, and hence they feed back into the inner world. We conceptualize this feedback as *wisdom*; as the unity of knowledge, awareness and love, wisdom is a link between the outer and inner worlds. It is the realization of one of the components of compassion: one's being motivated to act to alleviate unsatisfactoriness in the world. Last, *unity* is the apprehension that the boundary between the outer and inner worlds is specious; it is the sense that everything is connected.
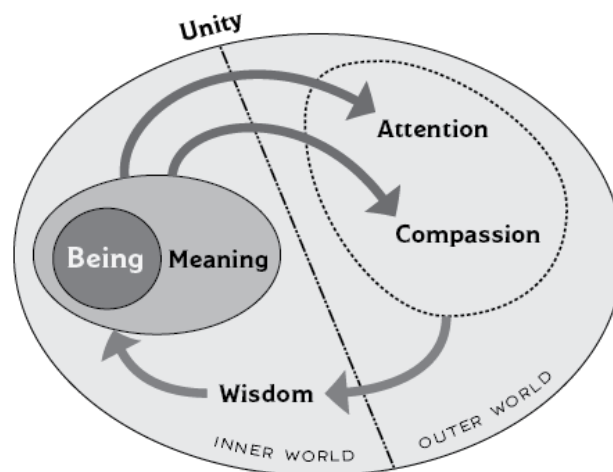

Figure 1. Framework of contemplative aims.

Finally, we consider how this framework relates to frameworks of epistemic aims. *Wisdom* is present both in this framework and Ackoff's (1989) pyramid. On Ackoff's account, wisdom emerges from the processing of knowledge, which in turn emerges from information and then data. In our framework, wisdom emerges from the activity of attention and compassion, which in turn springs from being and meaning. One may be tempted, then, to look for parallels between attention/compassion and knowledge, and between being/meaning and data. The present work does not directly ground such a comparison, but it does present an interesting path for further research. Next, the concept of *meaning* is also present in the framework posited by Gorichanaz (2017), wherein meaning is co-constitutive of information. That discussion builds on the work of scholars such as Budd (2011) and Floridi (2011), for whom where there is truth and meaning, there is also information. This suggests another link between the framework proposed here and epistemic conceptualizations in information studies. Recall that, though "information" does not appear in this framework as such, it contributes to each of the concepts identified here. Thus, we can understand information '*as flow*' (Bosancic, 2016), a matter of one's constructing their self and world with their '*body-mind-heart-spirit*' (Dervin, 1999, p. 730).

Conclusion

Information shapes the way people can be and act in the world. For the most part, this shaping has been conceptualized as a matter of epistemology. Still, some have suggested that information can contribute to other realms of human being. In this paper, we sought to develop a vocabulary to discuss how information shapes persons in these other realms. Specifically, we explored a link between information studies and contemplative studies to propose six contemplative aims for information: being, attention, meaning, compassion, unity, and wisdom. To briefly recapitulate, being is one's existence as subject, a sense of presence and history; attention is awareness, observation and presence; meaning is what contributes to one's being a person, making their life feel valuable; compassion is the recognition of and reaction to unsatisfactoriness in the world; unity is a sense of oneness; and wisdom is the unity of thought, emotion and action. These aims are connected, as shown in Figure 1. In presenting these concepts, we pointed out existing work in research and

practice in libraries, museums and technology design, bringing a vast literature under a common framework, and discussing opportunities for further exploration. Moreover, the framework as a whole evokes many research questions. Further contemplative aims may be discerned; there is also an opportunity to develop more fully concepts that came up only obliquely in the present discussion, such as truth and care. Additionally, further work can explore how people's information behaviour/practices connect with these aims. At the intersection of information and contemplation, much more can be done.

Picture yourself in an old museum or library, one of those grand and quiet spaces that once were more common, the kind of place where you can go to escape the daily grind and even feel a sense of awe and reverence, where you can nurture your attention and make exciting discoveries. Doesn't it feel good to be inspired? Isn't there value in open-ended exploration?

We believe that such experiences are not only healthy for all human beings but actually necessary (not least for cognitive performance). But they are becoming harder to come by. Applying principles from contemplative studies to information institutions and technologies is a way to move forward in this regard, to bring back some of the ways of being that seem to have gotten lost in the past few decades.

In this spirit, we can envision what McLean calls "convivial" museums—and likewise we can imagine such libraries and digital technologies. Such places would offer:

> *a welcoming spirit, orientation to the community, comfort, places for engagement, places for rest, a spark of life. But we say to ourselves, there just isn't enough time in the day. That's exactly when we most need to slow down. Try things out. Talk things over. Take time to listen, to remember and reflect. Take a moment, and a deep breath. Make time for slowness. In a time of severe and very real constraints, we need to be creative, to go back to basic principles, and nurture new ideas.* (2010, p. 179)

This paper has shed light on several paths that could be followed in pursuit of that vision. To be sure, this is only an early step. Many possibilities remain. In the conceptual realm, future work could link information to character virtues, points of contact between contemplation and epistemology (e.g., meaning, wisdom) could be explored more deeply, and other contemplative aims could be explored. We also see potential in connecting this work to

research in information behaviour and practices, and pedagogy, such as in information literacy: What particular activities and practices contribute to each of these aims? These then become information practices that can be studied as such, conceptually and empirically.

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