

What is the Collective Wisdom Theory?

An essay

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January, 2010

Abstract

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The purpose of this essay is to explore the emerging theory of collective wisdom in light of existing and similar theories. Collective wisdom has been defined by philosophers, authors, researchers, organizational consultants, and others in a number of ways. Many believe that collective wisdom represents a level of knowledge and wisdom that cannot be accessed by any one individual; rather, collective wisdom can only be experienced by groups that are functioning in certain states. However, for the collective wisdom theory to move forward, an important question must be addressed: is collective wisdom simply the repackaging of other, similar theories of social intelligence or transactive memory systems? This essay will address this important question. First, the essay will examine the emerging theory of collective wisdom in detail, examining the state of the theory and emerging trends. Next, the essay explores the theories of transactive memory systems (social memory) and collective intelligence, and draws comparisons to collective wisdom. Last, the essay explores possible mechanisms that may account for the emergence of the phenomenon. The essay concludes with some suggestions for future research.

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Introduction

When the Day of Pentecost had fully come, they were all with one accord in one place. And suddenly there came a sound from heaven, as of a rushing mighty wind, and it filled the whole house where they were sitting.
(Acts 2:1-2)

In writing about collective wisdom, Hamilton (2004) tells a story of a group of executives from the telecom industry that had gathered for three days in mid 2003 to discuss the future of the industry. With the advent and rise of wireless communication each of the leaders were concerned about the future of their respective organizations and the industry as a whole. For two days the discussions were fruitless and a waste of time. Finally, on day three a breakthrough occurred and the entire tone of the meeting changed. Several of the executives reported “electricity in the air” and that a sense of creativity had flooded the meeting. Hours passed without notice and the meeting ended as each executive sat in silence. As Hamilton states, “Nobody knows what has happened. But they all know it was important” (p. 58). What was the nature of the breakthrough that transformed the meeting?

Briskin et. al (2001) report a similar story told by participants in their study of the collective wisdom phenomenon. Here, a diverse group of men and women of different racial and ethnic backgrounds came together for a multiple-day training session. For three days the group struggled through a rote training routine, with little engagement or sense of group rapport. On day four of the meeting a woman began to express a personal story of pain, and invited others in the group to share their stories. As people began to share their tales, group members began to enter into a deep state of listening and dialog. One reported “...sitting forward in my seat spell-bound and listening harder and deeper than I ever had in my life” (p. 28). The participants spoke of seeing things in a new way, from a

perspective they had never considered before. How had the woman's story so radically transformed the tone of the training session?

Other authors and researchers have similar stories. Hurly (2004) writes about being a part of small groups and seeing "moments in which we were deeply attuned with another, times in which we worked as a team to accomplish something we hadn't thought possible, occasions in which a deep well of shared meaning suddenly opened in the center of a circle whose participants had been engaged in intense conflict (p. 2). Levi (2003), in writing about similar experiences, talks of people routinely experiencing moments in group settings where they attain synchronous connection, a moment sensed and felt in and by the body.

These stories illustrate a phenomenon that is becoming the subject of examination by researchers, practitioners, facilitators, philosophers, and spiritual teachers—a phenomenon some call *collective wisdom*. In short, collective wisdom represents access to a level of knowing and wisdom many assert is inaccessible by individuals alone. Hence, this abundance of wisdom and intelligence can only be mined and tapped into while in group situations; and only under certain conditions.

Exactly what is the nature of this phenomenon and why is it important that we understand it more? Could it hold the promise of becoming a practice that helps groups of all types address large issues in our society such as healthcare reform, sustainability, and global conflict? Hence, the exploration of this topic is vital for a number of reasons. Members that have been a part of groups and experienced collective wisdom unfold report a unique and sometimes transformative experience. They speak of transcendent-type occurrences where an overwhelming sensation of group solidarity emerges and

boundaries of limiting thought are dissolved. Those practitioners that have facilitated the emergence of the phenomenon report breakthroughs nothing short of remarkable. Here groups seem to quickly transcend the boundaries and obstacles typically encountered in group work and reach a state of being where functioning occurs naturally and rhythmically. In early applications, practitioners have begun to integrate concepts and practices into their group work in a variety of settings; some have focused on conflict resolution in large-scale disputes, some have applied these concepts to community development efforts, and others have worked in both for- and not-for profit settings. Some of the practices that are being used include extensive planning and thoughtfulness in preparing meeting space and place; a practice Rouge (n.d.) refers to as the “showering” of “intentional caring” on group members and participants. Some facilitators engage in self-preparation practices that include deep meditation (La Chapelle, 2003). In order to create an environment where groups are more likely to enter resonant states, Hurley (2004) begins meetings and group events with collective, verbalized statements of intention—conscious affirmations of not only what the group wants to accomplish together, but the manner in which each member wants to go about it. Kahane (2004) speaks of holding a position “of unwavering optimism” as a state of mind and being when he was working to bring agreement between two opposing groups. While facilitating a series of meetings between the groups, he used the power of story-telling to help members identify commonalities they shared. This developed momentum toward a more collaborative approach toward problem solving.

Those engaged in these early applications report results that offer promise to developing new and innovative ways to bring people together to address some of

society's most vexing and complicated issues. Given the potential and promise of the applications of this emerging theory, it is vital that it be better understood and critically examined. This essay represents such an effort.

The purpose of this essay is to examine the developing theory of collective wisdom. The exploration of this topic is in its early stages (Hamilton, 2004). The phenomenon, its description, causal mechanisms that account for its emergence, and other related explanations are still being born out and tested in research. A great deal of this research is from the qualitative paradigm.

In the critical examination that follows, we will explore the state of the collective wisdom hypothesis and review existing literature provided by those researchers and practitioners most familiar with the occurrence. We will discuss the nature of the phenomenon and the antecedent conditions that many believe facilitate its emergence. Continuing, the essay will examine two, similar theories of group dynamics from the social sciences—collective intelligence and transactive memory systems—and compare these to the emerging theory. By doing so we will discover that the phenomenon is similar and perhaps embedded in these existing theories. Further, drawing on theories from creativity and field studies, we will also speculate as to the mechanics involved in its construction. Here we will address the simple question of “how does it work?” The essay will conclude by suggesting ways in which the theory can continue to develop and move into the main-stream sciences where it can be nourished, challenged, refined, and more fully developed.

What is the Collective Wisdom Theory?

A Rose by Any Other Name

Elucidating a working definition of collective wisdom to be used throughout this essay is a difficult task. This is due to the absence of a common language adopted by those working in the field to describe the occurrence. Further, there appears to be a great deal of confusion surrounding different aspects of the phenomenon. These difficulties are explored in the paragraphs that follow.

One would expect to find the absence of a common language early the development of a new idea, and the collective wisdom hypothesis is no exception. In one of the early studies of the occurrence, Briskin et al. (2001) notes this difficulty: “That people use many different names to describe this phenomenon makes its exploration particularly challenging...” (p. 78). Hamilton (2004), in writing a review of the topic for a popular magazine seems to struggle with the same issue. Hamilton interchanges several descriptive monikers throughout his article including collective intelligence, collective consciousness, team synergy, co-intelligence, and group mind. Ott (as cited in Briskin et al., 2001) articulates a similar observation: “People who have explored this phenomenon have called it many different names: group synergy; group mind; collective intelligence; spiritual wisdom; collective knowing; group wisdom; magic; ‘being in the zone’: *kairos*; the transpersonal realm; *koinonia*; divine intelligence; and on and on” (p. 76).

The *Collective Wisdom Initiative*, a website dedicated to housing writings, interview transcripts, photographs and other artifacts pertaining to the phenomenon offers a blanket moniker under which all of the above terms appear to reside, hence offers the potential of a more permanent label. Interestingly, a source not regarded as academically credible by many scholars, *Wikipedia*, holds an article titled “Collective Wisdom” (n.d.) in which the author purposely draws a clear distinction between collective *wisdom* and

intelligence. This difference holds both an intuitive appeal as well as the promise of establishing a common language. Whereas collective wisdom is regarded as “the knowledge arrived at by individuals and groups, used to solve problems and conflicts of all humanity,” collective intelligence “is not uniquely human, and has been associated with animal and plant life” (p. 1). Last, those writers, researchers, and practitioners working in this field hold that this phenomenon is a relatively new discovery. As Hamilton argues: “Despite its widespread emergence, it’s a phenomenon that until recently has almost escaped the lens of the social sciences” (p. 58). (We will examine this assertion later in this essay). In this regard, perhaps adopting a moniker that has not been claimed by competing and similar theories would help move the theory forward.

A Growing Phenomenon

Notwithstanding the absence of a commonly accepted moniker, the early theorist and practitioners that regularly work with groups have noted an increase in the number of instances where collective wisdom has emerged. In Hamilton’s (2004) review, Otto Scharmer of MIT is quoted as saying, “more and more people are having this type of experience in the context of everyday work and professional settings” (p. 59). Briskin et al. (2001) also note in their phenomenological study that involved over 60 research participants: “This data leads us to hypothesize that experiences of this phenomenon are becoming more common” (p. 77). This leads one to the age old question: is the occurrence becoming more frequent, or, have people begun to take more notice of a regularly occurring phenomenon? The early data appears to support the former.

Group State or Group Product?

Contributing to the difficulties of describing and exploring the collective wisdom hypothesis is a great deal of confusion surrounding various dimensions of the phenomenon. Is collective wisdom a *product* or description of a *group state* of being? Does it describe something that groups do, something they produce, or a group state? Many authors writing on this topic routinely interchange these two dimensions. Some speak of collective wisdom as the moment in group functioning where “magic” happens and the group enters a zone (Levi, 2003). Others talk of groups being in this zone-like state and having breakthroughs in dialog that lead to conflict resolution or generative thinking. This leads one to seriously question the breadth of the construct in question. Is collective wisdom descriptive of both a group state of being and a group product or output? Here one can turn to literature in the organizational sciences to offer clarity in the midst of this confusion. Many in the organizational disciplines draw distinctions between these two dimensions of group life and functioning.

Group functioning or life can be thought of in two distinct, yet related dimensions. The first is *output* related, and entails the product or achievement of a group of people working together with a common intention or purpose. This may include products such as decision-making, problem-solving, setting strategy, evaluating the results of an effort, creating or building, collective visioning, and so forth. The second dimension is the internal *state* of the group, and the quality of being of its members. This is typically denoted by constructs such as team health, team synergy, team spirit, quality of group life, and group rapport (Brewerton & Millward, 2002; Cummings & Worley, 2001).

It is believed that these two dimensions are interdependent; that is, one affects the other and visa versa. Hence, groups with poor team health can reasonably be expected to perform at lower levels in terms of output, than those with good team health. Likewise, groups with high levels of quality output can generally be assumed to have a high level of team health and group rapport. There is some evidence in the literature that supports this relationship (Carron, Bray, & Eys, 2002).

Collective wisdom can be thought of in terms of the latter dimension, that being an output or product of a group. Some definitions of wisdom support this view. For example, though we sometimes use wisdom as a descriptor for an individual—we say, she or he is wise—wisdom is better defined as a course of action or characterization of a decision (i.e., that was a wise decision, or this was a wise choice). Moreover, wisdom is not considered the sole property of those we describe as wise. To the contrary, many often regarded as unwise can make wise decisions and say wise sayings. Hence, wisdom is more descriptive of actions taken. Therefore, one can argue that collective wisdom is a product of group interaction, a characterization of the acts and outputs of group functioning.

Continuing, many theorist argue that a particular state (or states) of group being is an antecedent condition for the emergence of collective wisdom. These group states are characterized by terms like group synergy, collective resonance, team cohesion, and so on (Briskin et al., 2001; Levi, 2003; Rouge, n.d.). Though only empirical evidence currently supports this point, it is reasonable to expect that groups must attain a state of being—group synergy, resonance, and so on—before they can experience the emergence of collective wisdom. Regarding the collective wisdom theory, it is evident that a clearer

distinction needs to be made between group states such as those mentioned above, and group output. To continue to interchange the two will only contribute to the ongoing confusion surrounding the phenomenon under examination. In regards to the remainder of this essay, we will consider collective wisdom as an output or product of group functioning, and not a state of group being.

What is the Nature of the Phenomenon?

An Emergent Phenomenon

Various systems theories articulate the construct of *emergence*, a property of a functioning system (O'Connor & McDermott, 1997; Flood, 1999; Anderson & Johnson, 1997). Emergent properties are those outputs of systems that are “above and beyond the properties of the parts that comprise them” (O'Connor & McDermott, p. 6).

A good example of an emergent property is the sweet taste of simple table sugar, or sucrose. At the elemental level, sugar is comprised of hydrogen, carbon, and oxygen. These basic chemicals combine in a unique way so that sugar is the result of this synthesis. However, none of the component parts of sugar possess the sweetness that is commonly known to be its distinguishing characteristic. Further, if one had no existing knowledge of the make-up of sucrose, one could not predict such a product of these elements combining. This is because the characteristics of sugar are not present in its component parts. In short, the sweetness emerges from the unique combination or synthesis of these basic elements.

Similarly, collective wisdom is commonly viewed as an emergent property, one that cannot be predicted with certainty. It is thought to arise from the interactions that

occur within a group, when certain conditions are present. Hamilton (2004), quoting a highly regarded practitioner working in the field, notes this clearly:

I think it comes down to grace. You can set the conditions that make it more likely for that ‘magic in the middle’ to happen, but you can’t predict that it will happen. I do think, though, that you can increase your chances quite substantially being highly intentional in setting up the preconditions (p. 66).

Another way to frame this is by evoking a gardening metaphor. When planting, a gardener goes to great lengths to ensure soil conditions are those that will most likely result in a healthy plant that produces hearty fruit. However, though the gardener can go to any length to set conditions for a healthy garden, in the end the gardener is powerless to guarantee the production of fruit.

What are those conditions in groups in which collective wisdom is more likely to emerge? Though one can’t predict this emergence precisely, many believe they have identified several recurring factors that contribute to its appearance in group situations. These are discussed below.

Antecedent Conditions

What conditions must be present in the group for collective wisdom to emerge? Is it possible for any group in any setting to enter a resonant state in which the occurrence can emerge? Are the factors that produce the phenomenon within the control of the individual group members? Or, are they external to the group? Can the conditions in which collective wisdom emerges be generalized into any group of individuals in randomized settings? These are important questions, and understanding what factors or conditions correlate with the emergence of the phenomenon is a vital step in furthering the theory.

To begin to address these questions we turn to literature from a number of sources. First, those practitioners working in and with groups that have experienced the phenomenon have hypothesized as to what conditions produce its emergence. Second, researchers in the social and organizational sciences have long explored the factors that produce success and performance in small groups and teams in various settings. Although there have been limited attempts to correlate findings between collective wisdom literature and the social science disciplines, some have begun to explore these (Ainsworth, 2008). Because group phenomena transcend the lenses of any one discipline, an integrated view of those factors that bring about collective wisdom and small group peak performance viewed from a number of perspectives can help illuminate this topic.

When examining literature from all of these perspectives, several recurring conditions that account for group performance continue to emerge. These conditions or factors generally fall into a few categories. These are: 1) collective and shared intention and purpose, 2) physical space as a container in which the group functions, 3) emotional and cognitive space in which the group functions, 4) individual skill and competence in group functioning, and 5) the surrender of self to a group consciousness or joining oneself into group mind. Each of these factors and supporting literature is discussed in the paragraphs that follow.

Shared Intention and Purpose

Undoubtedly, a key factor that contributes to the emergence of collective wisdom, as well as group and team performance, is a focused intention on a shared outcome—focused in that each group member is attentive and anticipative to something happening as a result of being a part of the group; shared in that each member is in agreement

concerning this happening. Katzenbach and Smith (1993) refer to this as an agreed upon goal; Hackman (2004) argues that a key ingredient of successful teams is a “compelling direction.” Rouge (n.d.), a practitioner that often sees collective wisdom unfold in groups, reflects on the role of intention: “I realized over time that by setting a clear intention for each gathering, for each day – I unleashed an energetic field which then drew the outer physical manifestation of that intention to me as I simultaneously was making my way towards ‘it’” (p. 6).

Hurley (2004) talks of particular intentions that seem to guide and focus groups. Here, he encourages—even challenges—groups toward specific outcomes. For example, he often begins group functions by articulating this particular intention: “I consciously affirm an unconditional desire for and commitment to finding solutions that serve the highest good of the whole and all that comprise it” (p. 8).

It is apparent that common goals and intention serve a coordination function in groups. Common goals allow group members to align their individual contributions with others to act as a single entity. What may not be so apparent are the subtle occurrences that this alignment can unleash. Setting a collective intention can create a vacuum into which actions, thoughts, ideas, and knowledge can assemble, coalesce, synthesize, and ultimately manifest.

Further, science has revealed that intention generates field like properties that can affect matter. Jahn and Dunne (2005) have demonstrated this fact extensively with over two decades of research. In repeated experiments, these researchers have shown that individual focused attention can affect the outcomes of sensitive equipment called random event generators. Further, these experimenters have shown that collective

attention can amplify these effects, depending on the relationship of the research subjects. In instances where emotional bonds were present, pairs or couples produced stronger effects than individuals. However, where no emotional bonds were present, no amplified effects were noted. Other researchers (Radin, Rebman, & Cross, 1996) have affirmed these findings as well. These findings seem to support the idea that focused attention and intention can manufacture energy that has generative properties, and that this can affect group functioning and outcomes.

Krogh, Ichijo, and Nonaka (2000) speak of the role of “a knowledge vision” in the enabling or facilitating of what they call *knowledge generation*. These authors refer to knowledge generation as a group output that occurs within organizations where workers assemble for specified and varied purposes. Similar to the emergence of collective wisdom, knowledge generation is the result of small groups collectively working to make sense of, or apply meaning to, new or novel situations. In order for knowledge generation to occur, certain conditions must be present. A key condition is a shared or collective vision for the future that is both generative and stimulating in regards to knowledge creation.

Physical Space as Container

In addition to focused attention, several practitioners speak of the importance of a physical setting in which the group functions. Briskin et al. (2001), in their phenomenological study of collective wisdom, note that many that experienced the phenomenon described environmental factors that appeared to provoke its emergence. These included art, music, sound, and movement.

In a similar study, Levi (2003) found that group members frequently reported that sound and vibration often stimulated or provoked a sense of group *resonance*—a term she used to describe the group’s internal state of being. Rouge (n.d.) talks of “building the container” in a physical sense, by caring for the comforts of the group, as well as ensuring the physical space contributes to group work. She discusses “taking people into [one’s] hands” by showing care to the importance of seating arrangements, adornments in the spaces in which groups work, and location of group meetings.

In the organizational sciences literature Parker (2003) notes the importance of providing groups resources they need to function, including tools, meeting space, and a comfortable environment. Further, research in ascetics has long noted the ability of space or one’s immediate environment to affect conscious states (Hild, 2007; Galindo & Hidalgo, 2005). Hence, one can begin to see the importance of space or place and its role in provoking collective wisdom.

Emotional and Cognitive Space

There is a metaphoric container in which group members function as well. Here, practitioners talk of the importance of the group’s sense of safety as a key ingredient to collective wisdom. This idea is one of the great contradictions in group life, that being group functioning and performance is enhanced through ensuring member individuality can come forth in the group—as opposed to suppression of the same. Many have found that for groups to function most effectively, individual members must feel safe and able to openly discuss any issue, and especially those that potentially evoke conflict and dissent (Hackman, 2004; Katzenbach & Smith, 1993; Cummings & Worley, 2001). Briskin et al. (2001) tell of a breakthrough moment in the formation of the United Farm

Workers union that resulted from the contributions and suggestions of an uneducated, elderly lady that felt safe enough in a large assembly to offer her insights.

Krogh, Ichijo, and Nonaka (2000) argue that a key ingredient in the generation of knowledge among small groups is the organizational context in which these group function. Here they argue that organizations—often thought of as places where one cannot be emotionally expressive—must create environments where members feel the freedom to emote and display care in maintaining relationships with others. They insist that, “...it is time that managers put care on their agendas again” (p. 5).

Janis (1982) illuminated the negative outcomes when group climate becomes mired in groupthink. In this enduring theory, Janis showed that groups often fall short of producing positive outcomes due to an overemphasis on group cohesion. Here, groups without dissenting views and opinions for fear of disrupting group unity, or worse, fear of a directive, sometimes overbearing supervisor or group leader, fail to reach good decisions because they can't or won't tolerate dissenting points-of-view. The logic of this metaphoric container is evident when examining problem-solving models in which dissenting or divergent thinking are a key ingredient.

Individual Skill and Competence

The role of the individual in group success and performance cannot be understated. Some argue that groups of average people can produce intelligence that surpasses the sum of the members' competences (Surowiecki, 2004); yet others show that groups frequently fail to reach their potential (Hackman, 2004). Said another way, groups have the potential to be smarter than their smartest member, or more inept than their lowest member. A key variable in the equation is undoubtedly group member competence

and skill. For example, in a study of team success and failure across nearly two dozen industries, Lafasto and Larson (2001) asked over 6,000 participants their views of the primary cause of poor team performance. The primary response was lack of an individual's social competency in group settings.

Hurley (2004) points to individual competence as a primary determinant in the emergence of collective wisdom. Skills described include one's ability to maintain steadfastness in ambiguous circumstances, self-knowledge and respect, active listening, being open to dialog and debate, even when one's paradigms are challenged, and others. Senge (1990) describes a similar set of traits when discussing team learning. He argues that group members must engage in open and honest dialog for teams to function effectively, and that this can happen only when group members are willing to suspend their personal belief systems and assumptions.

Rouge (n.d.) believes that "being in the present moment" is a key competence that supports the emergence of collective wisdom. She describes this as one "living in the question," and overcoming natural and cultural tendencies to quickly find solutions when in cognitive dissonance. Levi's (2003) study supports this factor as well when discussing the role that silence plays in group settings. Briskin et al. (2001) found similar results in their study.

For those that reported collective wisdom experiences individual traits and competences included one's ability to deeply listen, not being attached particular outcomes, trusting one's intuition, being with ambiguity, suspending assumptions, and others. Based on these, it becomes more doubtful that collective wisdom could emerge

from a randomly assembled group, unless those individual members possess important skills similar to those mentioned above.

Surrender of Self to Group Mind or Consciousness

What does it mean to give oneself to group mind? Writing over four decades ago, Canetti (1960, p 17) suggested that a “closed crowd” (the phrase he used to describe groups that assembled for a specific purpose), could be classified according their prevailing emotion. Canetti argued that crowds or groups form only to accomplish a specific goal; and, in order to exist each member must engage in an occurrence he labeled *the discharge*. He defined the discharge as “...the moment when all who belong to the crowd get rid of their differences and feel equal” (p. 17). This appears to be a prerequisite for groups transitioning from a collection of individuals to collective entities capable of entering a group state of being.

Radin and Nelson (2003) address this notion of self surrender by noting: “In a small, intimate working group, members may become so engaged in their common task that they give up some of their individual identification and integrate into the group, creating a ‘group consciousness’” (p. 52). This is a process whereby individual group members consciously become mindful of the whole, allowing this group consciousness to develop. This focus on wholeness, according to La Chapelle (2004), is an antecedent to the development of collective wisdom.

This surrender implies an element of vulnerability, and this is perhaps the logic in Levi’s (2003) finding such expressions bring about the sense of group connectedness and resonance. Colman (1995) discusses this as the journey from “I-ness” to “we-ness” and holds that this merger is nothing short of entering an alternate state of consciousness for

each individual in the group. In this state one's personal distinctiveness is diminished as the group's collective identity grows. Kenny (2004) defines this state as: "A mode of awareness, in which we directly experience, through an intuitive felt-sense, our union with the interconnected *wholeness* of life, and recognize ourselves in others" (p. 9, italics added). Those at work in the collective wisdom field argue that in this mode of awareness—perhaps an altered state of consciousness—group members gain access to a level of wisdom and knowing that is unavailable to the individual.

There is a dark side of surrender of self to a particular group state, and it is worth noting here. In writing about the psychology of genocide, Dutton (2007) shows how "normal" people can become horrific killers through the evolution of individual and societal norms. In a case study of the Rwandan genocide of the early 1990's, Dutton shows how the massacre of innocent men, women, and children were perpetrated by ordinary members of society. Often the genocide saw neighbors killing neighbors, as violent acts became "normalized" into society. This resulted from intense social pressures combined with extreme terror of the perceived "enemy." Through these mechanisms, individuals undertake a gradual shift in consciousness and surrender themselves to group mind and will.

In a less extreme example, Janis' (1982) groupthink theory also shows a dark side of surrender of self to group mind. In the Janis model, individuals succumb to pressures to conform and maintain group cohesion at the expense of their better judgment. In both this example and that noted above, the surrender of self to group seems to imply a loss or surrender of individual will and agency. Under certain conditions this loss can result in poor judgment and decision-making on the part of the individual.

The Role of Facilitation

Though few practitioners explicitly discuss the role of facilitation in the emergence of collective wisdom, its importance is evident for a number of reasons, and these are worth noting here. First, many, if not most, of the conceptualizations contributing to the emerging theory have come from these practitioners (Levi, 2003; Rouge, n.d., Hurley, 2004; Kenny, 2004; Briskin et. al. 2001). It is arguable a weakness in the literature on the phenomenon that few studies or papers have afforded the views of group members on this important topic, (a notion we discuss later in this essay).

Second, in a phenomenological study of facilitator's perceptions of their roles in the development of collective synergy or resonance, Wilson (2008) argues that facilitation is a key role in group functioning. Hackman (2004) affirms this notion when writing from the organizational sciences literature. Though not all groups require facilitation to function, all have some type of structure that allows for the coordination of efforts. While Wilson found a wide variety of beliefs concerning the role of facilitation in group functioning, she also found that most agreed that there was a role of some type. It is likely that the absence of clarity surrounding the role of facilitation is due in part to hesitancy of those playing this role to seriously examine themselves, their work, what they do, and how they do it.

Similar Theories of Collective Intelligence

Any examination of emerging theory must include a critical evaluation. Theories grow in legitimacy as a result of such evaluations and challenges. The collective wisdom hypothesis must undergo challenges and questions if it is to mature into a viable theory and foundation upon which future studies can build. Examining this emerging theory in

light of existing theories that are similar offers an opportunity for such a challenge. Here we find similar theories, perhaps even competing theories, thriving in the mainstream social sciences. Two such theories are examined below. These are compared and contrasted to the collective wisdom hypothesis and an important question is posed: is collective wisdom simply the repackaging of existing theory under a new moniker? If so, how shall we proceed? These questions are explored below as well.

Transactive Memory Systems

The theory of transactive memory systems (sometimes referred to as *social memory*) was first articulated by Wegner (1987). Wegner argued that few people rely solely on their memories, which are limited and often faulty. Instead, most people supplement their memories with external aids like address books and calendars. Further, Wegner posited that people also rely on other people to augment their memories—and that these people also rely on other people, creating a web of relationships that housed information that no single member of the web alone possessed. Hence, one could say that the web or network of relationships, not the individual, was the warehouse of collective information. When an individual needs information about a subject upon which they have limited information, they can turn to the network for help. Some speculate that this warehousing effect is adaptive in nature, and a trait that has enhanced the survival of the human species (Dunbar, Barrett, & Lycett, 2005).

While most of the early research on transactive memory systems studied dyads, over time studies began to examine groups. For example, Liang, Moreland, and Argote (1995) posited that groups that remained intact over time should develop more extensive transactive memory systems than groups with new or fluid constituencies. In an

experimental design these researchers examined the role of training in group settings versus individual training for the performance of a simple group task. They randomly assigned a portion of their total sample to groups and trained these teams on a simple task. For a control, they trained the remaining sample as individuals (not in group settings), and then randomly assembled these individuals into a control group. Next they had both groups conduct a group function. As expected, the experimental groups outperformed the control groups both in total recall or memory performance, as well as error rates when performing the task.

These findings support the observation of Hackman (2004), who researched the effects of fluid constituencies among flight crews for commercial airliners. Because of scheduling and related difficulties, flight crews seldom remain in-tact over long periods of time. Hackman argued that the constant shifting of cockpit team make-up resulted in less than optimal performance of these crews. Although he did not specifically note the transactive memory systems, his findings support the theory.

In another study Rulke and Rau (2000) studied the development of transactive memory systems among forming groups. They noted the encoding process as groups begin to “store” information within various group members. In this process, group members determine who within the group is deemed to have specific expertise in any given area. The authors note: “Knowing who was good at what also improved coordination within the group because it enabled group members to anticipate one another’s behavior and to react to that behavior more quickly and easily” (p. 376). Those identified as experts were expected to be the repository of knowledge that fell into their

area. Moreover, like many group dynamics, these authors argue that these processes unfold implicitly, without conscious awareness by team members.

Further, the work of Krogh, Ichijo, and Nonaka (2000) in knowledge creation has many similarities to the developmental patterns of transactive memory systems. In describing the development of what they call “microcommunities,” which are small groups that form around a common goal or interest, they note a similar process of finding out who knows what in the group. This aids the group in determining roles and recognized expertise. This process also furthers relationship development within the group, as well as rapport and coherence.

Research on transactive memory systems has focused specifically on small teams in predominantly for-profit organizational settings. The emphasis of this inquiry is, of course, the improvement of team performance through a better understanding and use of these memory systems. These studies include the efficient storage and processing of knowledge within certain team members (Tindale & Sheffey, 2002); the processes whereby the information is “encoded” across the team (Rulke & Rau, 2000); the manner in which experts on the team are identified as the repositories of certain facts and bodies of knowledge (London, Polzer, & Omoregie, 2005); the integration of technology as a means of storage and retrieval of information (Yuan, Fulk, & Monge, 2007); and the communication patterns across teams whereby these bits of knowledge and information flow (Palazzolo, 2005).

While the theory has helped advance team performance, there are many areas in which it can continue to expand. First, transactive memory research has focused on knowledge management, including storage, organization, and the subsequent retrieval of

this when needed. Similar to a library filled with rich information, the theory has begun to explore the card catalog system and placement of knowledge in different sections—a reductionist approach to knowledge management. However, the theory has yet to begin exploring aspects of knowledge generation by taking more of systems view. Said another way, when bits or pieces of knowledge are combined and arranged in certain unique patterns, new or previously unrealized bodies of knowledge may emerge or be created (Richards, 2001). Using the library metaphor, research has yet to explore what knowledge can be generated when different sources from the library are accessed and combined. Here, those methods and processes that may enhance knowledge generation could be unearthed and studied. Further, in transactive memory theory, individuals are regarded as storage devices, and those individuals with the most realized capacity are thought to become repositories for certain types of knowledge.

Research has yet to examine areas of personal development and growth while working in these systems that individuals experience. One particular exception to this may be the work of Littlepage and Mueller (as cited in Palazzolo, 2005), who discovered that one member's personal growth and development may stimulate that of others in the group. Again, these approaches represent a reductionist view of transactive memory phenomenon, and the application of systems thinking to this theory could enhance its usefulness in organizations. Last, a better understanding of the state of group functioning—group consciousness—that improves the functioning of transactive memory systems could enhance its applicability and utility.

Similarities and Differences

When comparing the collective wisdom theory to transactive memory system theory, several similarities and differences stand out. Naturally, both represent the study of group or team functioning in the area of knowledge generation and management. Both focus on outcomes of group interaction. However, when critically reviewed, differences and similarities can be highlighted.

First, as touched on above, collective wisdom represents a generative approach to knowledge management, whereas transactive memory systems focus on storage and retrieval. Those experiencing the emergence of collective wisdom speak of coming into realizations and seeing patterns that previously were unseen or perhaps unavailable. One that experienced the collective wisdom phenomenon reported: “It was as if a profound unified structure in consciousness descended down into us and between us, and at the same time mysteriously seemed to be functioning within its own dimension” (Hamilton, 2004, p. 70). Transactive memory is focused on existing knowledge applied to organizational functioning that is task-oriented, including group problem-solving, planning, and implementation.

Second, transactive memory systems focus on cognitive recall including information storage and retrieval from sources in team or group settings. The collective wisdom phenomenon represents a more fully integrated experience for team or group members that move beyond the cognitive aspects of group functioning. Those involved in collective wisdom experiences report the use of intuition and certain environmental stimuli that provoke and contribute to the experience. Although these factors may be present in transactive memory functions, they are not highlighted, studied, or discussed.

Last, transactive memory systems are reductionist in their approach, focusing on cognitive-oriented individual performance, and how these may be enhanced. Conversely, collective wisdom represents a holistic, systems view of group functioning. The phenomenon itself is thought to be an emergent occurrence that is unpredictable in nature. Groups and group facilitators speak of a deliberateness in creating the conditions in which the phenomenon can emerge. In transactive memory systems external or environmental conditions appear to be a matter of course, and not material in the functioning of these systems.

There are several similarities in these two theories. While many are explicit, more may be unapparent without a deeper examination. One could make a strong argument that both transactive memory systems and collective wisdom are both components of the same group dynamic, one being an outcome of group functioning (collective wisdom), and another being the process that produces this outcome (transactive memory systems). Perhaps the dynamics of small groups coming together and combining their respective experiences, knowledge, and expertise result in phenomenon that some describe as collective wisdom. Here, drawing from the antecedent conditions that produce collective wisdom, individuals join together under a common purpose or intention. These members work with a degree of communication, rapport, and trust that supports their functioning as a small work group or team, hence creating a metaphor container of safety in which they function. Each group member possesses unique skills and competences, and offers these to the group as a means to enhance group functioning and performance. Through the coordination mechanisms that unfold in small groups, these individual skills and competences combine so that they build on and enhance those of others in the group. The

group, now acting as a singular unit, performs various tasks that require the expertise and contribution of each member. Through these coordinated contributions, the group produces outcomes, and one of these could be a wisdom that results from the combination of individual knowledge and expertise.

It is not difficult to believe that group functioning has a universal element. Further, it is not hard to believe that group dynamics unfold and emerge in ways that cross many dimensions—organizationally, culturally, purposely, and others. Could it be that the functioning of transactive memory systems are a key component in the emergence of collective wisdom in small groups and teams? One could easily support this argument. If so, both theories could benefit from exposure to the other.

Collective Intelligence

The theory of collective intelligence can be illustrated by a remarkable story told in the opening of the Surowiecki's (2004) book *The Wisdom of Crowds*. In the early 20th century, the scientist and statistician Francis Galton attended a county fair where he observed a weight-judging competition. The competition was like some seen in local fairs today—an individual purchases a chance to guess the weight of the object on display. If correct, one goes home with the prize. In this case the prize was a fat ox and people were wagering on the correct weight after the ox had been slaughtered and processed. Over 800 individuals entered the contest, many of them “experts” in livestock. Some contestants were butchers as well, and others were simple folks with limited or no expertise in the subject of estimating the weights of livestock. Being a statistician, Galton was curious to see the distribution of guesses over the crowd, and asked to see the individual guesses after the competition was over. As expected, Galton found a wide

distribution of guessed-weights that fit nicely into the bell-shaped curve one expects to see in such distributions. However, Galton also uncovered something unexpected. When adding all of the guesses together and dividing by the total number (in this case 787), Galton found that the group mean or average guess—one could say the collective guess of the crowd assembled that day—was essentially perfect.

Surowiecki goes on to argue in the remainder of his book that “Under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them” (p. xiv). The author goes on to offer numerous illustrations of this argument, highlighting the mechanisms that allow individuals to combine their respective intelligences into a collective one. In one striking example, Surowiecki shows that the stock market, through its post-disaster trading of the stocks of the four major contractors that participated in the doomed 1986 space shuttle *Challenger* launch, identified the contractor responsible for the disaster six months earlier than the panel of experts assembled to investigate the cause of the crash. In this case, the stock market served as the mechanism that allowed the wisdom of the crowd—in this instance, investors—to aggregate into discernable patterns as reflected by average stock prices (and these are the aggregation of thousands of individual transactions that occur throughout a trading period). In the *Challenger* example, the stock value of the contractor responsible for the faulty o-ring seals that destroyed the shuttle shortly after take-off decreased substantially just hours after the disaster, whereas stocks of the other three contractors dipped on slightly.

Surowiecki (2004) believes that there are three conditions under which crowds or groups must work in order to amass individual intelligences into one that is smarter than

the smartest in the group. The first is diversity of thought and opinion. Here, the-more-the-merrier in that divergent thinking expands the universe of possibilities. As noted earlier, Janis (1982) showed that during problem solving, groups that move quickly to solution without exploring a wide array of options fall prey to groupthink. Surowiecki argues: “Diversity helps because it actually adds perspectives that would otherwise be absent and because it takes away, or at least weakens, some of the destructive characteristics of group decision making” (p. 29). The second condition is independence. Here, individuals must be able to put forth their individual views, beliefs, and opinions without regard to undue influence of others or fear of censorship or reprisal. Again, this condition appears to be similar to Janis’ (1982) observations. He noted that influences such as an over-directive group leader or strong tendencies toward coherence could pressure group members to engage in self-censorship, thus withhold their true opinions and views. This ability to freely express one’s opinion is often easy for large disparate groups that have no ties or relational obligations. It becomes more difficult in smaller settings where groups interact face-to-face and experience social pressures toward conformity, similar to the contexts that Janis studied. Surowiecki comments: “One key to successful group decisions is getting people to pay much less attention to what everyone else is saying” (p. 65). The last condition is decentralization. Surowiecki comments:

The idea of the wisdom of crowds also takes decentralization as a given and good, since it implies that if you set a crowd of self-interested, independent people to work in a decentralized way on the same problem, instead of trying to direct their efforts from the top down, their collective solution is likely to be better than any other solution you could come up with (p. 70).

Of course this notion flies in the face of convention when applying these principles to large, complex organizations that strive to bring centrality of thought and effort to their

workforces. Many of these spend an infinite amount of effort and resources at aligning individual thought through the creation of shared vision. Some team experts believe that agreed upon methods of conducting group work, standardized norms that govern group behavior, and team size are essential in effective team functioning (Katzenbach & Smith, 1993).

Collective intelligence theory is not the sole property of the human species. Herd or swarm intelligence theories appear to be built on these principles. Scientists, biologists, and others are beginning to understand how groups of seemingly unintelligent ants, caribous, pigeons, termites, and others make collective decisions without any hierarchy or group leadership. In many applications, these hives, herds, or colonies make collective decisions in a similar fashion as described by Surowiecki (2004) above. They promote diversity of opinion and options, encourage independent appraisal and “thinking,” and narrow choices through some type of established mechanism (Miller, 2007).

Szuba (2002) argues that the exchange and aggregation of individual efforts toward a common goal is the true definition of collective intelligence. He puts forward the notion that our modern ideas of intelligence as cognitive capacity and competence are not truly representative of this phenomenon. From this regard, Szuba argues that collective intelligence was the mechanism that brought forth life as we know it today, after countless millennia of evolution. Here, those early molecules of life swimming around in the chemical pools of amino acids combined their efforts and intelligences to form increasingly complex life forms that have us where we are today. Building on this postulate, Pentland (2007) contends that intelligence itself is a collective phenomenon,

and not the possession of an individual, a basic assumption of the cognitive sciences. He argues that individual intelligence is a misnomer and those bodies of knowledge that are accessed by people are socially constructed in their entirety. This line of thinking flies in the face of the traditional views of knowledge generation and dissemination. In these models, “experts” are thought to be the possessors of knowledge, and these individuals enlighten others through the passing of knowledge in various ways. However, collective intelligence theory holds the opposite view: groups of all types and species collectively generate and hold knowledge which is accessed by the individual when needed to engage in any number of activities.

In addition to moving across species, collective intelligence theory has integrated technology into the mix. In the *Wikipedia* model individual intelligences are being combined into singular bodies of knowledge. More and more, these repositories of information are being enhanced by modern technology (Yuan, Fulk, & Monge, 2007). The Massachusetts Institute of Technology created the *Center for Collective Intelligence* to explore this growing phenomenon by addressing the basic research question: “How can people and computers be connected so that—collectively—they act more intelligently than any individuals, groups, or computers have ever done before?” (<http://cci.mit.edu/index.html>). For ant colonies, the mechanisms that aggregate intelligence springs from countless interactions and exchanges that are never ending in the colony (Miller, 2007). For herds and flocks that move as a singular unit, individual behaviors are aggregated into a group behavior through the application of a few simple rules that each member follows at all times. However, with advances in information technology humans appear to have more tools at their disposal.

Similarities and Differences

The collective wisdom hypothesis and collective intelligence theories are similar in a number of ways. First, both are regarded as group phenomenon, or the output of groups coming together and interacting. Both hold that groups have the potential to generate, or perhaps access, intelligence and wisdom that transcend levels of any individual in the group. Both hold that under certain conditions groups can outperform individuals in cognitive, creative, and intuitive domains. However, the theories diverge in a number of ways as well. For example, many apply the collective intelligence theory to all species and living matter, whereas collective wisdom is currently in the domain of the human species only. Further, one could speculate that unit-of-analysis between these two is different. In collective intelligence theories, the group tends to be the unit of analysis. It was argued earlier that the group is the proper unit of analysis when examining the construct of intelligence (Pentland, 2007). Collective wisdom, although thought of as an emergent outcome of group interaction, is often framed and discussed at the individual level. For example, the Briskin et al. (2001) study noted earlier examines the collective wisdom phenomenon from the individual's perspective. Other studies (Levi, 2003; Wilson, in press) take a similar tact in understanding the individual's experience as part of the emergent phenomenon.

Earlier in this essay, when comparing transactive memory systems and collective wisdom, the possibility that both phenomena were natural outcomes of group functioning was put forth. Further, it was argued that transactive memory systems may be a foundational component contributing to the emergence of collective wisdom. Here, when examining collective intelligence, one could consider the same. Perhaps collective

wisdom, transactive memory systems, and collective intelligence are common experiences of all groups at some point in their lives, when they encounter certain catalytic conditions. Similar to the fable of four blind persons examining an elephant through touch from four different perspectives and each describing the elephant differently from others, perhaps these phenomena naturally occur at various stages and places of group life. Hence there could be times when groups build upon their transactive memory systems to expand their collective intelligences, and while doing so experience the phenomenon of collective wisdom. Perhaps each of these is interrelated, and exists in interdependent condition with the other.

A final story that illustrates the similarities of these theories between species will close this part of the essay. There are moments in groups and collectives, when faced with challenges, that a consciousness pervades the moment and spreads throughout the group, similar to the “flight or fight” reaction in an individual, but on a larger scale. Perhaps this is the moment of Canetti’s (1960) *discharge*. Biologists Heuer and Allison noticed this when following a herd of caribou some 1,000 miles observing them along their natural migration route (Miller, 2007). While watching the herd in its natural habitat, these biologists begin to notice the symmetry with which the herd moved. Notes Heuer:

It’s difficult to describe in words, but when the herd was on the move it looked very much like a cloud shadow passing over the landscape, or a mass of dominoes toppling over at the same time and changing direction. It was as though every animal knew what its neighbor was going to do, and the neighbor beside that and beside that. There was no anticipation or reaction. No cause and effect. It just was (p. need page number).

It is not difficult to notice the similarity between this natural flow of caribou and a college lacrosse team as described by a team member. Recalling a time during a game that this group consciousness emerged, a team mate reported:

From the opening whistle we entered this space that seemed like everything was happening in slow motion. Roy would win the face-off, and I knew where he was going to run and where he would pass to me. And I'd move in that direction, and he'd make the pass just as I'd seen it. I would turn, and I know exactly where A.J. would be for my pass, and then for his shot on the goal. Not only did it seem like the moves of my teammates were scripted, but it also felt like the other team was somehow participating in the dance as well, like I knew where they would be as well. The whole thing had this incredible, magical quality to it (Briskin, et al., 2001, p. 26).

Having explored the collective wisdom hypothesis and similar theories, we now turn our attention to some speculative notions of how these phenomena unfold. In particular, we examine the idea of collective wisdom, and explore ways in which individuals come together and generate knowledge, creativity, wisdom, and intelligence that no one person in the group possesses. Although this is seemingly impossible, there are reasonable explanations that account for something apparently materializing out of thin air.

Causal Mechanisms

Memes: Units of Information

It is an archetypal scene that recurs in modern film with great frequency. A group of detectives, bandits, explorers, or friends sit in a room bedeviled by a vexing problem, stumped by the absence of evidence, lost in a maze below the earth, or sit hopeless amidst piles of books and papers. All are desperately searching for something that is needed—a cure, a clue, a map—but seemingly cannot be found, located, or discovered. Then suddenly, out of the moment of greatest despair, one person in the group sees what they

have all missed or overlooked previously, and the problem is miraculously solved. They all live happily ever-after. What happens in these movie moments where Indiana Jones suddenly sees what no one else has for centuries? Simply stated, in each of these moments is the discovery of patterns that were previously undetected.

Writing from the creativity discipline, Richards (2001) holds that the act of creating can be thought of as the re-arrangement of information to form new models or conceptual frameworks. Information can be thought of in chunks, or small units called *memes* (Richards, 2001). These chunks mix and match in infinite configurations to produce ideas and knowledge. Think of Rubik's Cube. One cube is made of many smaller cubes. Each cube that makes up the larger cube has a distinct color. When matched with other cubes, distinct patterns appear on one side of the larger cube. With one turn or spin the configuration is shifted and new patterns of color come forth. Another turn of one side produces a new set of patterns.

Similarly, creativity can be thought of as the putting together of existing *memes* in new ways (Richards, 2001). Could it be that collective wisdom emerges as a result of similar mechanisms? In such a case, each individual could be thought to possess countless memes of information, in a number of differing areas. While functioning in group related tasks, each member begins to rearrange her or his memes in a way that helps the group in task accomplishment. Each group member is going about meme arrangement in their own way, and, each group member is combining their memes with others' memes in such a way that new and unique patterns of information begin to emerge. Research in the area of knowledge creation and generation in organizational settings has provided support for this building approach to wisdom development. In a

knowledge generation model proposed by Krogh, Ichijo, and Nonaka (2000), individual member contributions compound into new or novel bodies of knowledge constructed to address new or novel situations. In the model, groups or teams come together and begin to share their respective views and tacit knowledge with one another. This development is facilitated by outside information that legitimizes the growing body of knowledge.

Through ongoing exchange and dialog, a “draft” concept or developing framework is created. As the draft is purified, the team adopts the newly created body of knowledge as its own.

Consider a small group of less than 15 engaged in a problem solving task. Imagine the problem to be complex and unique, such that none in the group have previous experiences with a similar issue. Imagine a group where each member is free to engage in divergent thinking without social pressures to cohere or succumb to a powerful group leader’s ideas or suggestions. One can imagine the group deeply engaged in discussion, debate, formulating solutions only to have them torn apart and reconstituted into similar, yet distinct ideas. In this example, each member is mining their individual experiences and intellect while being influence toward certain arrangements by other members. Each member is in a constant state of meme re-arrangement, as is every other member of the group. And just as in our movie scene, suddenly one member notices a certain “meta-meme” configuration that has emerged. Further, this arrangement is unique and hasn’t been assembled (or noticed) before. That is, someone in the group realizes a particular configuration, combination, and integration of individual intelligences that have combined into what has now become a singular idea. The member blurts out their observation and others begin to see the same pattern or arrangement. In an instant each

member recognizes the uniqueness of knowledge that has been generated and finally, the eureka moment has arrived. In this scenario, knowledge generation at the level it occurred was not possible by any single individual for it was entirely a group product. Hence one could say that this level of knowledge or wisdom is accessible only through group interaction.

Meme construction could be easily applied to both transactive memory and collective intelligence theories. It offers a reasonable explanation for the magic moments many in the collective wisdom report. Seeing new patterns of knowledge and wisdom might also account for the transformative experiences some report as well. There are, however, other possibilities that account for the emergence of collective wisdom. One in particular is through generation of invisible fields that affect and influence reality as we know and experience it.

Field Theory

In an intriguing hypothesis, some have argued that fields may explain the emergence of collective wisdom (Hamilton, 2004). In these, fields are thought to be the “first-movers” of the creation process (Conforti, 1999; Sheldrake, 1984). These fields—similar to magnetic or gravitation fields—can only be detected by their effects. For example, in applying field theory to plant growth, a plant’s cells are “directed” to become different parts of the plant by being influenced by a non-spatial field—a preexisting pattern of energy that directs the movement of creation towards its uniqueness (Conforti, 1999). These patterns can be described as archetypes, or, an original pattern from which all similar things are patterned. Conforti applies field theory to explain group behavior. He argues that our thoughts, actions, and patterns of consciousness are influenced, or

perhaps fatefully determined, by archetypal influences or pre-existence patterns to which we are drawn for various purposes. More specifically, to use Conforti's words, "My theory of the archetype is the psychological parallel to the scientific theory of self-organizing dynamics in nature" (pg. xv). As Hamilton (2004) points out:

...what makes this notion of collective fields particularly intriguing, in light of collective wisdom experiences, is the way it seems to account for one of the most remarkable phenomena of group experience: the sense that, once it emerges, the collective mind seems to take on a life of its own (p. 70).

This notion of a created field has support from the work of Jahn and Dunne (2005) discussed earlier in this essay. These researchers have demonstrated that groups, under certain conditions, appear to generate conscious fields that can affect matter. When these fields are collectively created by a group in a resonant state, one that has a shared and common intention or goal, it is logical to believe that into this created vacuum, collective wisdom could emerge, arise, or come forth. Of course this is speculative, but it is also intuitive. In other words, it makes sense. Jahn & Dunne (2005), after exploring the affects of mind-matter interactions for a quarter century, offer several explanations as to how one's consciousness and intention can affect one's surrounding environment. These researchers speculate:

Our representation proposed that when the conscious mind expresses a strong desire, enhanced by deep feelings of resonance, that resonant intention stimulates some process in the unconscious mind that is reflected in the pre-physical potentiality and subsequently expressed *via* a subtle biasing of probabilistic physical events (p. 235).

Said another way, we tend to find what we consciously and unconsciously look for.

Having discussed ways in which the collective wisdom phenomenon unfolds, we now turn to concluding remarks. Further, we discuss how research might further the hypothesis and elucidate its value in society today.

Conclusion

While going about the process of writing this essay, I began discussing the collective wisdom theory with friends, family, colleagues, and others. Many of these discussions began in casual settings. While describing the phenomenon to others, with great frequency many began nodding their heads as I began to explain the nature of the occurrence. Often, before I completed my elaboration someone would interrupt me with a story of how they had had a similar experience. My wife talked of a moment during her book club when she felt the group “alive in her body”; my mother described a moment while singing in her church’s choir where she felt engrossed in a cloud, and getting chill-bumps during a certain performance; a work colleague talked of “being in the zone” with teammates during a sporting event; an associate that often facilitates group events talked of seeing groups regularly enter resonant states. I can recall many personal experiences in groups—once, time seemed to stop during a group members telling of a personal story; another where our meeting room shrunk and closed in around our small group of less than 10; and many, many encounters in work groups where we seemed to generate a decision, an idea, or approach that took us all by surprise in its level of novelty and unexpectedness. I assume that any reader of this essay could easily point to similar experiences as well. It appears that this phenomenon is common in groups. What is not so apparent is how it happens, when it happens, and what contributes to its occurrence. These and similar questions should compel researchers to further examine the collective wisdom hypothesis under rigorous and controlled circumstances.

Research has begun to examine the phenomenon from the point-of-view of those individuals that have had experiences with the emergent event. Research has not delved

into this from the group's point of view. Here, a focus on groups that experience this phenomenon as the unit of analysis could produce interesting findings. In that this is a group-generated occurrence, examining group level dynamics could produce illuminating findings. In that many group related interactions occur at the nonconscious level (Barsade, 2002; Chartrand & Bargh, 1999; Pentland, 2007), it is reasonable to expect that phenomenological studies that have examined collective wisdom from the individual's perspective may not be able to capture many of these nonconscious dynamics. Here, case studies using the group as the unit of analysis could produce some interesting findings.

The collective wisdom hypothesis could benefit from the integration of other related theories like those mentioned earlier in this essay. Many of these theories are more fully developed and could contribute to the advancement of our understanding of this occurrence. Many of these theories have begun to help us understand phenomena that at one time were thought to be unexplainable. By following in similar footsteps of researchers working in these areas, the collective wisdom theory may begin to understand those occurrences that many describe as "magic."

Last, this phenomenon offers the potential to bring groups together in unique ways where traditional boundaries, biases, and paradigms can be transcended. Here, the promise of groups working together in novel and unique ways to address some of society's more complex issues is alluring. Given this promise, researchers, practitioners, authors, and scholars should continue to deepen our understanding of the experience of collective wisdom.

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