The Internet as a Tool for Studying the Collective Unconscious

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The Internet has opened many doors for us over the past two decades. It has allowed us to access information and connect globally on a level that is unprecedented in human history. With the rise of this new medium, there has been an influx of innovative technologies such as social networking and search engines that have shaped the landscape of the Internet and have touched our human psyche in a way that we could have hardly thought possible in the past. The network of computers that comprise the Internet has given birth to a hive mind[1] never before experienced. Like a school of fish, we are unconsciously influenced by the collective. Individuals have reacted differently to the ubiquitous nature of such technology and the increasing feeling of mass connection. Some have learned to adapt to the "always on" mindset that the Internet imbues, whereas others have become distanced and long for the intimacy of offline interaction. It is within this burgeoning cloud of techno-social growth that the unique opportunity to study the human mind at large has presented itself.

Jung and the Concept of the Collective Unconscious

C. G. Jung, one of the most influential thinkers of the past century, helped establish the field of analytical psychology and furthered the area of psychoanalysis when he departed from the ideas of Sigmund Freud. Jung's work was a synthesis of many different areas of study, including Eastern and Western philosophy, science, sociology, literature, and art. As a result of his diverse range of influences, Jung developed an extensive understanding of the human psyche and furthered many of the concepts that are essential to the field of contemporary psychology. None of his ideas drew more attention

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than that of the collective unconscious[2] and its correlate, that of the archetypes. The following excerpt introduces Jung's concept of the collective unconscious:

> A more or less superficial layer of the unconscious is undoubtedly personal. I call it the "personal unconscious." But this personal layer rests upon a deeper layer, which does not derive from personal experience and is not a personal acquisition but is inborn. This deeper layer I call the "collective unconscious." I have chosen the term "collective" because this part of the unconscious is not individual but universal; in contrast to the personal psyche, it has contents and modes of behavior that are more or less the same everywhere and in all individuals. (1934/1954/1968, CW 9i, ¶¶3–4)

The concept of the archetype is the manifestation of the collective unconscious's psychic content in the form of certain "primordial images." These images are commonly expressed in much of the world's mythology and religious scriptures. Some of the more common archetypes include the Great Mother, characterized as being nurturing and strong, as well as the Wise Old Man, who is characterized as being knowledgeable and insightful. These conceptions are innate and have been found to be consistent across many different cultures and religious backgrounds.

Social Networks

Recent pioneering work by social scientists Nicholas Christakis and James Fowler have revealed that social networks exhibit remarkably complex patterns of growth that almost take on a life of their own. These real-life social networks have a great deal of influence on the individual people who comprise them. In one of their recent studies, Christakis and Fowler found that if a person's friends were obese, one's risk of being obese was 45 percent higher. Moreover, if a person's friends' friends were obese, one's risk of being obese was 25 percent higher (Christakis and Fowler 2007). Similarly, several other health-related problems, behaviors, and even one's mood could be linked to membership in a given social network (2009). What's more interesting is that, by creating models of the data collected, the authors were able to show that different behaviors and moods spread according to different patterns (Figure 1). For example, obesity was much more likely to spread along the same gender, whereas a behavior such as starting or stopping smoking was much more likely to be transmitted across genders (Christakis and Fowler 2008). The spread of influence through these social networks has come to be termed *contagion*.

A number of possible mechanisms explain how contagion works and why it causes such a clustering effect. First, the process is one of induction, where the given behavior simply spreads from person to person. This idea is supported by the recent discovery of mirror neurons, which are important for imitation of behaviors and language acquisition in humans (Ramachandran 2006). Another explanation is *homophily,* the notion that birds of a feather flock together. Yet another explanation is that of *confounding,*
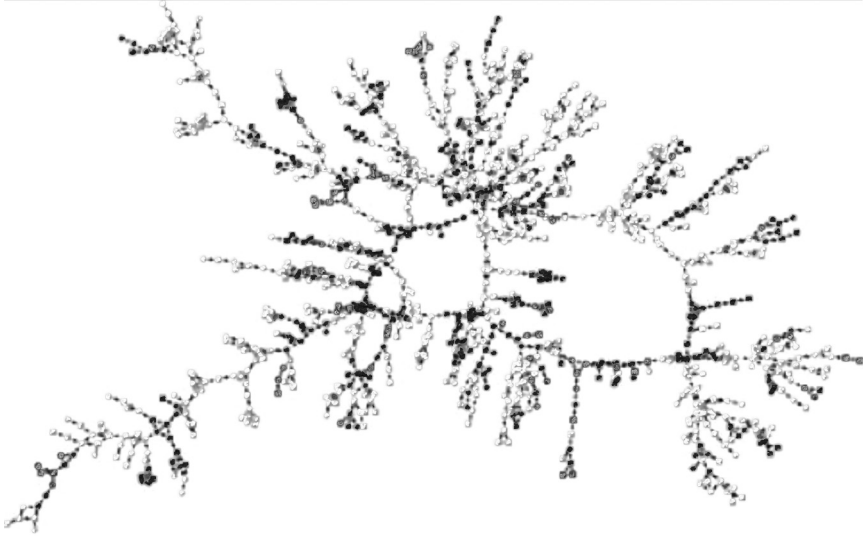
Figure 1. "A network of 1,020 connected friends, spouses, and siblings from the Framingham Heart Study in the year 2000. Each node represents a person, and its shape indicates the gender (circles are female; squares are male). Lines between nodes indicate relationships (black for siblings, red for friends and spouses). Node color indicates how happy each person is, with blue (black) shades indicating the least happy, and yellow(white) shades the most happy; shades of green (grey) are intermediate. Unhappy people and happy people tend to cluster in separate groups. In addition, unhappy people are more likely to be at the periphery of the network" (Fowler and Christakis 2008, a2338). (Figure courtesy of *New England Journal of Medicine*.)

the notion that there could be a hidden intervening variable that is responsible for the pattern of dispersion. Which of these explanations holds the most merit is unclear at this point. However, the Internet provides us with a suitable proving ground for testing such theories. With the surging popularity of social networking websites, the time is ripe for a serious initiative based on the principles of experimental psychology to delve into the intricate workings of the hive mind.

The New Conception of the Collective Unconscious

Whereas Jung initially conceived the collective unconscious as being an inborn, primordial matrix, the discovery of these interactions between large groups of people has revealed yet another side to the notion. The properties of these social networks can be understood according to the ideas behind chaos theory (Lorenz 1995). In chaos theory, the behavior of a complex system is largely dependent on initial conditions. Furthermore, the behavior of the system is an emergent property that is not directly obvious from the behavior of the individual components. As a result, these systems take on an almost lifelike quality. Whereas in an ant colony, the individual members exhibit quite simple behavior, a network of human minds is many levels more complex.
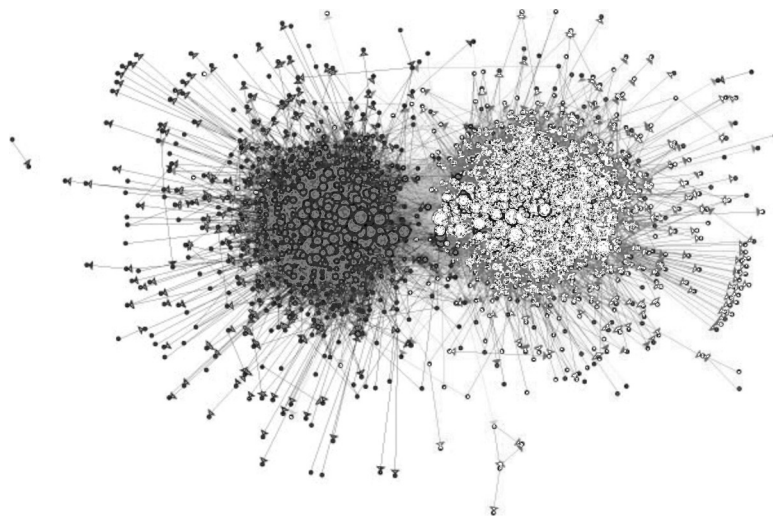
Figure 2. Link structure of political blogs prior to 2004 U.S. presidential election. Blue (dark) dots represent liberal blogs and red (light) dots represent conservative blogs. (Figure courtesy of Association for Computing Machinery, Inc.)

In addition, the natural state of human beings has typically been to gather in small tribes or families. Never before has there been a time when one could study the human mind as part of a global colony.

While this phenomenon of an emerging global network is new and exciting, why does it warrant further investigation? The most direct reason for an extensive research initiative is the fact that such connectedness touches on many spheres of human interest, such as the rapid growth of the Internet, the ease with which global communication takes place, and the rate at which news and information, as well as epidemics and financial crises, spread through our networks (Easley and Kleinberg 2010). Apart from developing an understanding of human social behavior in large groups, studying the properties of networks can have profound implications for understanding the propagation of political beliefs and economic trends. Figure 2 shows the links among political blog web pages prior to the 2004 U.S. presidential election, revealing two densely knit and well-separated clusters.

This rift between opposing political ideologies is not surprising. It supports the proverbial notion that birds of a feather flock together. This dichotomy is generally accepted as part of human nature. Yet to see it in this graphical form begs the question of why can't there be more integration between opposing viewpoints? Such integration would surely result in a much richer variety and subtlety of political values, leading to a more open discourse between members of opposing parties. By conceptualizing other relevant issues in such a manner, we may be able to gain insight from a "top-down" viewpoint, which may help us approach problems more intuitively.

Nonlocalized Cognition and Memetics

The notion behind the Internet jargon of an idea "going viral" is a reference to the new class of concepts known as Internet memes. Richard Dawkins introduced the concept of the meme as something that "conveys the idea of a unit of cultural transmission" (Dawkins 1989). He likened the meme to the gene, a replicator that follows the laws of evolution as the basic unit of cultural transmission. Common examples of memes include melodies, gestures, and symbols. Recent work in evolutionary neuroscience has found that certain memes may have a neural basis of propagation (McNamara 2011). Internet memes are capable of spreading rapidly through social media and social networking websites. Why certain memes capture the collective attention of the population and others don't is an interesting phenomenon. Perhaps certain memes have particular characteristics that resonate with the collective unconscious. Although this hypothesis might seem like a bit of a stretch, it can certainly be tested empirically online.

Perhaps one of the greatest indications of the collective at work is the recent surge of open source projects. None of these projects have garnered more attention and widespread appeal than that of Wikipedia. A free content, openly editable encyclopedia, Wikipedia is the result of countless hours devoted by a sea of anonymous contributors. The time and effort that goes into this form of online collaboration has been termed the *cognitive surplus* by technical writer Clay Shirky (2010, 29). Shirky has been an exponent of the idea that the Internet has transformed the public from being consumers, as they were in the days when television was the only option, to being producers who actively participate in shaping the landscape of the Internet. This is the premise behind the open source movement, where the cognitive processes underlying the creation of such resources have been distributed among many. Such nonlocalized cognition is the idea behind *Wired* magazine editor Kevin Kelly's conception of the *technium.* According to Kelly, the technium describes the greater sphere of technology, encompassing all realms of humanity. Essentially, it includes anything that was created by a human mind, ranging from culture, ethics, social systems, law, art, communication, language, and even consciousness. According to Kelly, the technium embodies the following:

> There are two opposing views of technology. One, that it is of us, and the other that it is not us. The following is my view that it is us.
>
> The technium is necessary for us to be fully human. As we create art, invent social structures and map the universe we discover who we are. Without these inventions— even simple ones like poetry, clothes, fire, and hand tools—we don't know anything about ourselves. Technology not only reveals our humanness, it is the way we are human. We create our humanness by creating the technium. (Kelly 2004)

Kelly views technology not only as vast and expansive, but as an integral part of what it means to be human. The technium can be thought of as an extension of the collective unconscious—the sum total of all the creations of humanity. Rather than

being something that is cold and separate from our nature, the technology that we have created has become a powerful force of growth and self-actualization. Furthermore, the network of computers that links us is a natural form of integration and a move toward unity as a species. As William James profoundly proclaimed, "We are like islands in the sea; separate on the surface but connected in the deep."

Future Research Initiatives

A number of possible avenues of social-psychological research could be explored in the new frontier of online environments. By text-mining newsfeeds from different areas of the world or from different subcultures, we could look for key trends and common themes. Such an initiative might give us a sense of the collective's unconscious tendencies, which may be indicative of the time's social climate. Applications have already been designed for social networking websites that collect data from large networks for experimental purposes. The field of memetics provides an impetus for social scientists to explore exactly which ideas have the tendency to go viral. The construction of Internet memes could serve as a tool to study whether archetypal ideas do, in fact, exist and, if so, to what extent they draw the attention of the masses. Analysis of the links among websites and blogs could help us map the topography of the Internet, which would graphically illustrate the intersections among opposing ideas, interests, beliefs, and people. These are only a few of the directions which could be further developed.

ENDNOTES

1. The term *hive mind* is commonly used to describe the emergent complexity in a large group of individuals. Although traditionally used to describe the behavior of a hive of bees or colony of ants, the term has gained new meaning with the advent of global networking technologies such as the Internet. The phrase has recently become a popular Internet meme used to describe the unconscious influence of the collective on the individuals composing a network.

2. For those interested in more information on Jung's concept of the collective unconscious, see the following references: *The Archetypes and the Collective Unconscious* (CW 9i, 1968) and *The Essential Jung* (1983). For recent articles on the collective unconscious, see Gullatz (2010) and Merchant (2009).

NOTE

References to *The Collected Works of C. G. Jung* are cited in the text as CW, volume number, and paragraph number. *The Collected Works* are published in English by Routledge (UK) and Princeton University Press (USA).

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ABSTRACT

This article is a theoretical proposal to use the Internet to explore Jung's concept of the collective unconscious. Recent findings in the field of sociology have shown that real-life social networks can have strong unconscious effects on the behavior of individuals comprising a group. Such complex interactions have led to the need for a new conception of the collective unconscious, one that incorporates such "group mind" phenomena and is better suited to explore the behavior of large groups of people who are accessible through today's online networks. This article explores the properties of these networks and establishes a basis for the future exploration of the collective unconscious through such a framework.