

Social Media: Defining, Developing, and Divining

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**Abstract**

What is a social medium, and how may one moderate, isolate, and influence communicative processes within? While scholars assume an inherent understanding of social media based on extant technology, there is no commonly-accepted definition of what social media *are*, both functionally and theoretically, within communication studies. Given this lack of understanding, cogent theorizing regarding the uses and effects of social media has been limited. This work first draws on extant definitions of social media and subcategories (e.g., social network sites) from public relations, information technology, and management scholarship, as well as the popular press, to develop a definition of social media precise enough to embody these technologies yet robust enough to remain applicable in 2035. It then broadly explores emerging developments in the features, uses, and users of social media for which future theories will need to account. Finally, it divines and prioritizes challenges that may not yet be apparent to theorizing communication processes with and in mercurial social media. We address how social media may uniquely isolate and test communicative principles to advance our understanding of human-human and human-computer interaction. In all, this article provides a common framework to ground and facilitate future communication scholarship and beyond.

*Keywords:* Social media; definition; theory; explication; future developments

## Social Media: Defining, Developing, and Divining

### Introduction

What are social media? Were you to ask a group of bystanders, you would likely readily receive a list of many social tools including Facebook and Twitter, but would be challenged to find a pair who agreed on a concrete definition of a social medium. Scholarship of social media is similarly convoluted, as there tends to be a general consensus of what tools may be *considered* social media, but without a consensus on what *defines* these tools as social media, especially across disciplines. In short, while we know *what* social media are, we are not necessarily able to articulate *why* they are what they are, and various disciplines address social media disparately. Moreover, defining social media by exemplars limits our ability to develop broad, robust theories, as a theory of interaction on Twitter remains utile only as long as Twitter remains stable, both in technology and how users communicate through tweets, and cannot be extended beyond Twitter to other media, further limiting the utility of the theory.

This special issue seeks to provide a theoretical foundation for the scholarship of social media twenty years hence. Yet a challenge to the building meaningful theories of social media is the development of a common understanding of the construct of *social media* to guide the inclusion or exclusion of communicative tools—many which will emerge in the coming decades alongside radical technical and social advances—to which these theories apply. Particularly given the mercurial nature of social media features and tools, a unified conceptual definition, “conveys the meaning we attach to the concept” (Shoemaker, Tankard, & Lasorsa, 2003, p. 26), providing the foundational understanding of social media critical to permitting theory development. A unified definition facilitates systematic theory building that transcends disciplines and contexts (Hempel, 1966) by enabling the explication of links between concepts

(Shoemaker et al., 2003). Only through a common understanding of social media may we, both within the communication discipline and across others, theorize the processes and effects of social media. Indeed, as Ledbetter (2014) argues the communication field needs to more meticulously theorize the connection between a communication medium and the message, we argue that penultimate to connection is understanding the medium itself. Yet, the present paucity of a clear definition of social media—one precise enough to encompass currently-understood social media yet robust enough to include future social media tools that have not yet emerged—hamstrings researchers by limiting the conceptual foundation of social media on which theory and future scholarship may build.

Consequently, this article contributes to the discussion of social media and theory in 2035 by first examining the myriad of extant definitions and characteristics of social media to frame and forward a robust definition to guide the next two decades of multidisciplinary social media scholarship. After defining social media, it explores developing technological, social, and communicative features that will alter (and stabilize) social media interactions in the future. Finally, we divine and prioritize several directions for the field as it seeks to develop, validate, and apply theories of social media between now and 2035. In all, this article can serve as a roadmap for future scholarship exploring and advancing our understanding of communication within and communicative effects of social media.

## **Defining Social Media**

### **Previous Definitions**

Several nascent definitions of social media have been offered, both within the communication discipline and across related disciplines such as public relations, information science, and mass media. Definitions typically converge around the notion *social media* refer to

digital technologies emphasizing user-generated content or interaction (e.g., Kaplan & Haenlein, 2010; Terry, 2009). Often social media are referred to by channel characteristics, identifying either directionality of messages (e.g., Kent, 2010) or using specific tools like Facebook or Twitter to exemplify modes of interaction (e.g., Howard & Parks, 2012). Though several definitions exist, there remains a lack of a formal, concise, and mutually-agreed upon definition of social media (Effing, van Hillegersberg, & Huibers, 2011; Kaplan & Haenlein, 2010; Xiang & Gretzel, 2010), particularly across disciplines. The lack of a common definition can result in multiple connotations of a concept, making it difficult to create a shared understanding (Hempel, 1966) to guide theory and research. Indeed, extant social media definitions vary widely in their complexity, focus, and applicability outside their home discipline.

Some extant definitions are relatively simple, focusing on the nature of message construction in social media. For example, Russo, Watkins, Kelly, and Chan (2008) defined social media as, “those that facilitate online communication, networking, and/or collaboration” (p. 22). Kaplan and Haenlein (2010) offer a similarly brief definition of social media as, “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (p. 61). Even less precise, Lewis (2010) noted “social media” simply serve as a, “label for digital technologies that allow people to connect, interact, produce and share content” (p. 2). These definitions are problematic in that they could easily be applied to other communication technologies such as email, missing the unique technological and social affordances that distinguish social media.

Howard and Parks (2012) proffered a more complex definition of social media as consisting of three parts: “ (a) the information infrastructure and tools used to produce and distribute content; (b) the content that takes the digital form of personal messages, news, ideas,

and cultural products; and (c) the people, organizations, and industries that produce and consume digital content” (p. 362). They further specify social media are frequently denoted in the literature, not by their traits and characteristics, but by merely invoking specific applications such as Facebook or YouTube. Though a more robust definition, this focus on specific tools can be problematic as it misses the actual and potential social impacts of those tools and limits possible contributions to theory building, restricting applicability to descriptive studies.

Additional definitions of social media have been offered from beyond communication science. Within public relations, Kent (2010) broadly defined social media as, “any interactive communication channel that allows for two-way interaction and feedback,” further specifying modern social media are characterized by their, “potential for real-time interaction, reduced anonymity, a sense of propinquity, short response times, and the ability to ‘time shift,’ or engage the social network whenever suits each particular member” (p. 645). Yet it is notable that fledgling online tools such as Whisper ([whisper.sh](http://whisper.sh)) and Ask.fm are reversing earlier trends by re-embracing anonymous online communication, albeit at the cost of interactivity. Within medicine, social media has been, “loosely defined as user-generated content utilizing Internet-based publishing technologies, distinct from traditional print and broadcast media,” (Terry, 2009) and distinguished from traditional media by user-generated content creation. It is of interest to note both of these definitions partially define social media by differentiating between social and traditional (either print or online) media, but do not clearly exclude other ‘new media,’ such as email and text messaging, which are not typically included in typological lists of social media.

Social media have often been conceptualized techno-centrally, based on specific devices or tool affordances, often considered to be synonymous with Web 2.0 or the collaborative Web (e.g., Agichtein, Castillo, Donato, Gionis, & Mishne, 2008). Web 2.0 refers

to Web-based, collaborative tools relying on user-generated content that constantly evolve and improve (O'Reilly, 2005). Even more problematic has been the conflation of “social media” and “social network sites.” boyd and Ellison (2007) seminally defined *social network sites* (SNSs) as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (p. 211). Unfortunately, this definition has frequently been errantly cross-applied as an overarching definition of social media. Though SNSs—by their nature—are typically social media tools, not all social media are inherently social network sites. The misapplication and misattribution of boyd and Ellison’s definition have led to imprecision in some of the literature around social media, which could impede theoretical development of social media more broadly.

As evidenced from the myriad of prior definitions, social media have sometimes been considered as amalgamations of site features, and at others defined by specific features or technological affordances, minimizing their unique communicative properties. This technocentric and inductive approach to defining leaves thinking on social media grounded in current specific and extant technological affordances, and misses much of what makes social media unique both as a technology and as a construct. As a result, these definitions pose problems for theorists by muddying the foundation of research and constraining theorizing to current technologies, services, and practices.

This lack of a stable, yet robust, definition also poses a significant problem for the pursuit of future scholarship of social media. Without objectively agreeing upon what social media are, it will be difficult to understand how to approach and theorize issues occurring within social media from a communicative perspective and beyond. From these definitions and some of the

expected directions of social media discussed in the next section, we thus posit a new definition of social media that is deductive, descriptive, and robust: As applicable to today's social media as to the social media of 2035, whatever form they take.

### **A New Definition of “Social Media”**

One impetus of this work is to forward a new, broad yet precise, and atemporal definition of social media. We think it prudent to initially delineate between a social medium and a medium that facilitates socialness. Rather than addressing a medium that can be used for socioemotional communication, we distinguish social media as a distinct subset of media tools that share a common set of traits and characteristics, where the affordances for disparate individuals and groups to contribute to the creation of the content they are consuming provide intrinsic value far greater than what each individual site feature provides. As such, we formally define social media as the following:

*Social media are Internet-based, disentrained, and persistent channels of masspersonal communication facilitating perceptions of interactions among users, deriving value primarily from user-generated content.*

Though precise, this definition is admittedly complex and technical. Thus, we offer a rephrased, slightly more verbose, but potentially more accessible explication:

*Social media are Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others.*

Though we clarify and explicate the formal definition's key elements in the following subsections, this rephrased definition summarizes the intended conceptualization of social media.



***Internet-based***

Foundational to our definition is that social media are online tools operating via the broader Internet, acknowledging that social media need not be Web-based. The Internet refers to the interconnected computer networks across the globe, and refers predominantly to the system infrastructure; while the World Wide Web is one of many applications using the Internet's infrastructure to communicate through audiovisual hyperlinks and accessed through a browser. Increasingly developers are moving away from browser-based Web tools to include stand-alone app[lication]s that do not require the Web to function.

Divorcing the definition of social media from current notions of Web 2.0 tools such as Facebook and Instagram allows for the inclusion of tools that transcend current notions of the Web and online applications, yet still include social tools that operate on the multi-site private intranets of organizations (which are connected via the internet) such as IBM's Beehive (cf. DiMicco, Millen, Geyer, & Dugan, 2008; Thom-Santelli, Millen, & DiMicco, 2010). As social media developers continue to embrace apps at the expense of the Web as a platform, social media may rely on other applications of the Internet, including file transfer protocols (FTP) and media streaming to facilitate communication by circumventing the Web all together. Although the Web may be sufficient for social media tools, it is not necessary.

***Disentrained, persistent channels***

Channel disentrainment is communication facilitated by a particular channel in which the user participates when he or she can commit to participating, as opposed to face-to-face communication, when both members of the communication dyad need to be committed at the same time (Walther, 1996). Its root, entrainment, comes from the organizational behavior and natural sciences literature and means to adjust one's pace or cycle to match that of another

(Ancona & Chong, 1996); and thus, disentrained means that this adjustment is unnecessary. Social media provide communicators disentrained, asynchronous communication tools, thus avoiding a, “scarcity of temporal resources,” (McGrath, 1991, p. 162). Asynchronous tools do not require simultaneous attention from interaction partners, make temporal commitments discretionary, and allow greater self-presentation by providing individuals time to selectively and opportunistically construct and present themselves online (Walther, 1995, 1996). Channel disentrainment therefore allows for unique communicative processes over entrained channels such as face-to-face interactions or real-time text or video chats such as instant messenger or Skype interactions. Scholars, particularly Kent (2010) in his definition of social media, emphasize the value of time-shifting feedback to a network member. Though value of real-time interaction via social media is noted (as many social media integrate synchronous or real-time messaging capabilities), we forward a *defining* feature of social media is that the channel is persistently available whether a user is active or not, facilitating disentrained communication.

This disentrainment is facilitated by the persistence or continuation of the social medium’s service even when an individual user is not online or active. Thus far, channel persistence has been the focus primarily of scholars investigating virtual worlds (e.g., *World of Warcraft*, *SecondLife*) whose processes continue to function regardless of whether individual users are logged in and actively engaged in the virtual world (Bainbridge, 2007; Steinkuehler & Williams, 2006). Like *World of Warcraft*’s world of Azeroth, the world of Facebook does not cease to function or decline in value because a single user is not online; rather the service operates continually as the aggregated user base is able to log on at a time of their choosing (thus taking further advantage of social media’s disentrainment) to use the service. Unlike synchronous services like ChatRoulette.com or Skype which require a user be online to

communicate, social media create persistent online places for messages to be created, transmitted, and consumed regardless of which individuals are online. Moreover, it is important to distinguish that services like Whisper and Snapchat, which allow users to send text or images that are deleted shortly after viewing (reminiscent of *Mission: Impossible* briefings), are persistent services as the channels are continuously accessible, even if specific messages are not.

### ***Perceived interactivity***

Though some previous definitions have predicated interactivity among users as a requisite for social media (e.g., Kaplan & Haenlein, 2010; Kent, 2010), we specify the mere *perception* of interactivity with other users is necessary to distinguish a social media. Particularly as digital agents, algorithms, and other mechanistic features operate online, it is most critical that users *perceive* an interactive element to consider the medium social, even if that interaction is not with other users. A social medium is inherently social in nature, in that it seeks to create, capitalize on, or maintain social interactions among its users. However, these social interactions need not be specifically interpersonal in nature, provided the user is afforded a sense of interactive engagement with others.

As computer programs and virtual agents increase in complexity, individuals will send and receive messages from algorithms—programs with enhanced response capabilities that mimic true interactivity by adapting to stimuli and messages (Rafaeli, 1988; Sundar, 2007), yet are limited to a predefined (albeit large) response set (cf. Wegner, 1997). Just as with soap opera characters (Perse & Rubin, 1989) or celebrities on Twitter (Lueck, in press), individuals may perceive interactivity and social connectedness even when Luke Spencer or Kim Kardashian is not actually responding to the individuals' messages, thus fostering parasocial interactions, messages, and relationships. Additionally, the platforms of social media themselves may afford

a sense of interactivity even when there is none, as a medium itself may foster perceived interaction (Lin & Lin, 2014). Particularly geocentric services like Foursquare and Tinder may allow an individual to perceive herself or himself as interacting with others in a specific location (e.g., airport terminal, city park) even without message exchange—merely acknowledging the presence of others may facilitate perceptions of interaction (Lindqvist, Cranshaw, Wiese, Hong, & Zimmerman, 2011). Given these considerations and advances, most critical to social media is that users perceive they are interacting with others, even if the sending and receiving of messages does not meet the criteria typically associated with interaction (Rafaeli, 1988).

### ***User-generated value***

The value (i.e., benefit or enjoyment) of using social media is derived from the contributions from or interactions with other users rather than content generated by organization or individual hosting the medium. The value of the social medium may be different from its content, which needs not be generated by an individual user: Content can be organizationally generated and promoted in addition to or instead of contributions from individual users. For example, though a public service announcement may be created and promoted by an organization, individuals may derive greater utility and value from the user-generated comments about the PSA and find their product perceptions influenced more by the peer interactions than the intended message (Walther, DeAndrea, Kim, & Anthony, 2010). The interaction with other users is the motivation for the continual involvement with the content.

An immediate question is, “Who decides from where value is derived in an online tool?” We posit ultimately that a service’s users decide its value, echoing Shirky’s (2010) assertion that the intrinsic rewards of providing content to a site contributes to the popularity and utility of social media. Desanctis and Poole’s (1994) adaptive structuration theory (AST) posits users can

either faithfully or ironically adopt a technology by either using it for its intended or unintended purposes, respectively. Viewed through the lens of AST, users may derive value from a service not intended to provide value through user-generated content and ironically adopt an asocial medium, using it as a social medium. For example, though [imgur.com](http://imgur.com) is a simple image-sharing website, users often derive gratification from interactive user comments and exchanges below each picture (Mikal, Rice, Kent, & Uchino, 2014) and have appropriated the service for political activism and journalism (Pearce, 2014). Thus, understanding from where utility is derived for a specific medium may be an idiosyncratic process.

### ***Masspersonal communication***

Masspersonal communication refers to instances where mass communication channels are used for interpersonal communication, interpersonal channels are used for mass communication, and when individuals simultaneously engage in mass and interpersonal communication (O'Sullivan, 2005). Tools like Facebook, YouTube, and Twitter have been identified as ideal venues in which to explore masspersonal communication, as they allow individuals to broadcast messages to a large, yet often interpersonal, mass audience, while receivers may reply either interpersonally to the individual or through a mass message of their own (Walther, Carr, et al., 2010). Rather than being limited to dyadic interpersonal interactions such as text messages or letters, or to limited-feedback mass media channels such as radio or television broadcasts, messages can flow from user-to-user, user-to-audience, audience-to-user, or audience-to-audience in social media. This multidirectionality of communication flow allows messages to be sent and received as mass and/or interpersonal messages, bridging the divide between these historically-clear boundaries of communication (O'Sullivan, 1999).

### **Next Steps**

Taken together, these elements constitute an inductive, abstract conceptualization of social media encompassing the diversity of tools and functions that will remain utile alongside socio-technical developments, yet can guide categorization of today's social media (see Table 1). This definition was forged in the fires of earlier attempts to do the same that were hampered by 1) being too focused on emerging trends in technology, media, and users, limiting their temporal applicability, 2) by being so broad that they could easily be applied to other communication technology, such as email, or 3) being so discipline-specific that they were limited in their contribution to theory-building. To avoid similarly limiting our own definition, we turn to developments on the horizon for social media—both of the media tools and of the users—to help temper our definition and to advance scholarship in the social media that will be, even if it not yet is. Later, we divine what these technosocial developments will mean for communication theory and suggest issues that will need to be addressed to understand the effects and limitations of the evolving social media landscape.

[INSERT TABLE 1 ABOUT HERE]

### **Developments in Social Media**

The development of the technical infrastructure and social use of social media over the next twenty years has broad implications for the allied communication fields and will influence both theory building and application. The algorithms underlying social media, how users interact with social media, and the increasing value of interactions with and within social media will innately change the tools themselves, the phenomena of interest to scholars, and the methods of that study.

### **Changes in Infrastructure – Mobile & Data Driven**

The technical infrastructure underlying the Internet, and therefore social media, is already changing, both in how we access systems and how those systems operate. First, the Internet is progressively accessed by means other than the World Wide Web. The rapid diffusion of smartphones and mobile devices (e.g., tablet computing) facilitating access to social media through applications (i.e., apps) and direct interfaces, often without going through a web browser. Thus, over the next two decades we will increasingly access the Internet not via desktop or laptop computers, but rather we will access and integrate social media tools *in situ* via the Internet of Things (e.g., watches, pens, writing tablets, vehicles; cf. Atzori, Iera, & Morabito, 2010), further blurring the lines between online and offline location.

Second, the computer systems underlying the Internet will continue to change, altering the way information is stored, processed, and retrieved, resulting in data-driven tools. This data-driven infrastructure is visible in the emergent Web 3.0 (the Sematic Web; Berners-Lee, Hendler, & Lassila, 2001), which utilizes complex algorithms, enormous computing power, and machine learning to scan and synthesize swaths of information from across a myriad of databases to alter user experiences. Already Twitter recommends accounts users may follow based on a complex algorithm, including one's expanded social network, topics tweeted, and patterns of use. As social media tools become more adaptive, knowledgeable, and personable, users will increasingly communicate without a clear sense of whether they are interacting with another human or a computer program behind an on-screen persona. Already, research (e.g., Bailenson, Yee, Blascovich, & Guadagno, 2008; Lim & Reeves, 2010; Nowak & Biocca, 2003) indicates different communicative and interaction processes when varying the actual or perceived agency of a communication partner—whether their on-screen interactant's actions are directed by another user (an *avatar*) or by an automated response program (an *agent*). The artificial intelligence

algorithm-driven Cleverbot, (cleverbot.com), Google Now

(<http://www.google.com/landing/now/>) and Apple's personal assistant program Siri are extant previews of data-driven interactions for future social media.

### **Changes in Interactions - Constant Massive, Masspersonal Interactions**

Social media will increasingly take advantage of the masspersonal, persistent nature of its channels, changing the scale of communicative interactions by allowing mass messages that can be received, interpreted, and replied to interpersonally, and vice versa (cf. Walther, Carr, et al., 2010). Online messages will be increasingly designed for mass audiences, taking advantage of social media's abilities to connect with large, contextually-diverse audiences (Marwick & boyd, 2011). Concurrently, messages will *seem* interpersonal, appearing to be sent by an individuated sender even as they are increasingly authored by groups (e.g., social media teams) and automated, algorithmic, programs. Masspersonal exchanges in mass media among individuals and amorphous others may therefore increasingly reflect the "illusion of intimacy" associated with parasocial interactions (Alperstein, 1991), further blurring extant conceptualizations of communication and interaction.

These developments have potential ethical implications, as these amorphous or falsely personal interactions run the risk of generating emotional responses and dependence in users, and could affect both decision making and personal relationships. Wanelo (wanelo.com) users creating clothing outfits or home decorating could believe they are interacting with a person or a brand personality when in fact it is an algorithmic agent, designed to provide potentially persuasive content and messages based on user characteristics and behavior. This type of manipulation is already evidenced in targeted online advertising delivery services, such as



Google Ad Sense; but the implications of algorithmic agents generating targeted interpersonal messages are broader and potentially more problematic.

Communicative convergence will encompass more than the blurring of lines between human and automated or mass and interpersonal communication, further challenging extant notions and theories. Already we see social media blurring the lines between previously clear delineations of interpersonal and organizational communication: Employers' perceptions of job applicants are influenced by personal information beyond the organizational context (Carr & Walther, 2014), often readily accessible via information extracted from the individual's personal social media presence. Likewise, the convergence of the personal and professional in social media will affect how individuals expect to interact with organizations and how they utilize the opportunities (i.e., the disentrainment) afforded by social media for selective-self presentation. Publics will increasingly expect a personal face to represent organizations and corporations on social media, fostering interaction at all times of the day. Whether managed by a human or computer, this anthropomorphous organizational persona will collect and process user data to personalize each user's experience, fostering a perceived interpersonal interaction.

These changes in interactions will lead to challenges for extant theories, typically myopically focused on predicting and explaining one facet of communication. Notions such as electronic *propinquity* (Korzenny, 1978), the perception of psychological closeness between individuals, will need to be revisited to determine whether the interpersonal processes they relate still correlate when individuals interact with data-driven computer systems as online agents, rather than another person. Similarly, questions of intercultural communication may change and evolve as systems are able to translate messages (text, audio, and potentially even visual cues) in real-time between languages and cultures. In sum, the ability to constantly access social media

that transcend contexts, cultures, and current thinking of what constitutes “communication” will challenge our present understanding of the discipline and its processes.

### **Changes in Organizing – Organizing the Unorganizable**

Increasingly, the affordances of social media will enable persistent and *ad hoc* groups and organizations to form and collaborate. Rather than necessitating collocation to facilitate organizing behaviors and interactions, social media afford a virtual place for individuals with common interests to associate in both planned and informal interactions (Carr & Zube, in press; Rheingold, 2003; Steinkuehler & Williams, 2006). Social media will continue to make it easier for groups to form around common interests and goals. As more organizations (especially those geographically distributed) implement proprietary intranet-based social media platforms, work flows will also streamline while costs associated with organizing and coordinating diminish (Shirky, 2008; Tapscott & Williams, 2008). Already we see educational environments, both formal (massive open online courses like the University of West Virginia’s [<http://wvucommmooc.org/>]) and informal (e.g., YouTube videos), transformed by social media, allowing students to co-learn masspersonally (Carr, Zube, Dickens, Hayter, & Barterian, 2013).

Social media will more readily allow organizations to conduct environmental scanning, monitoring and evaluating their communicative efforts, including those of individual employees and stakeholders. Social media provide a place for individuals to share and collaborate around interests, such how they view an organization. Particularly as social media tracking tools (e.g., Clemson’s Social Media Listening Center [[smhc.clemson.edu](http://smhc.clemson.edu)]) improve, organizations can utilize social media to passively scan public sentiment, reacting to events before they hit a critical mass and allowing for better design and targeting of messages. The ability to observe and analyze large amounts of real-time data will also facilitate organizational crisis monitoring

and response, facilitating healthier and more productive dialogue between organizations and their publics by enabling rapid and tailored message design (cf. Kent, 2010; Kent, 2013).

### **Divining Directions for Theories of Social Media**

Given these developments, how should communication scholarship addressing social media proceed? As social media and their uses have evolved rapidly even over the past ten years, trying to predict where they will be and how they will be used in another twenty may be a mercurial, elusive challenge. This final section attempts to meet this challenge by divining and prioritizing directions for future scholarship. Specifically, considering the aforementioned social and technical developments expected of social media, we call for the reconceptualization of communication, an influx of new research methods and tools, reconsidering relationships between communication and media studies, and the exploring effects of social media access for future social media scholarship.

### **New Notions of Communication**

Firstly, social media scholars will need a clear understanding of *communication*, which may not reflect current thinking. Historically, communication is conceptualized to occur, “whenever humans interact in some way” (Dean, 2002, p. 2) and represents the intentional exchange of meaning (Littlejohn & Foss, 2005). However, as reflected in our definition, social media alter the messages transmitted and how individuals perceive interactive exchanges. Thus, social media may spur a paradigm shift (Kuhn, 1996), calling for the development and application of novel ways of thinking about and discussing communication, starting with the reconsideration of its very nature.

Future work in communication studies should consider the nature and role of computer-generated messages and interactions, common in data-driven Internet architecture yet not

accounted for in Dean's (2002) definition as they do not reflect human-to-human communication. Already research has demonstrated system-generated cues given off—neither intentionally transmitted by a sender or requested by a receiver—significantly influence perceptions (Carr & Stefaniak, 2012; Tong, Van Der Heide, Langwell, & Walther, 2008). In other words, system- (rather than human-)generated cues serve a communicative role, which should be considered in new paradigms of understanding what constitutes communication.

To this end, though communication should continue to seek to develop theories of its own (Berger, 1991), it should not hesitate to look to other disciplines, and particularly computer and information science, for theories to extend and inspire anew. As one example, the computers-as-social-actors paradigm (CASA; Nass, Steuer, & Tauber, 1994) has already provided a useful tool to understanding human-computer interaction, and moreover how individuals communicate with systems. We know users incorporate feedback about their self-presentation into their identity similarly whether that feedback is provided by another user or automatically generated by a linguistic-analysis system (Walther et al., 2011). Moreover, recent results indicate individuals communicate differently when they are primed to think they are interacting with a robot rather than a human partner (Spence, Westerman, Edwards, & Edwards, 2014), suggesting the perceived interactivity of a partner matters. As systems evolve and adapt more naturalistic processing and interaction with users, research should seek to understand how individuals assign agency to interaction partners (cf. Krämer, von der Pütten, & Eimler, 2012), media themselves (Li & Li, 2014), and their effects on communication patterns and outcomes.

For example, Walther et al.'s (2011), participants were explicitly told feedback was provided by either a human research assistant or an automated algorithm. What would happen were subjects left to guess whether feedback was human-generated or computer-generated, and

what cues would they use to determine that agency? Future theories will need to build on and extend the CASA paradigm to account for more advanced and nuanced human-computer interactions, specifically how individuals detect and alter exchanges with automated (rather than human) interaction partners. Individuals seeking a logical and unbiased opinion free of stigma or human bias may *prefer* confiding in known automated agents (e.g., a Siri-like psychologist) rather than close friends or anonymous others on social media to work through intense emotional issues, free from human judgment. Their communication of those issues may be predicated on and guided by their knowledge (or at least perception) of the agent with whom they interact. Needless to say, there are also a multitude of ethical implications for a virtual therapist to be probed as well.

In the next twenty years, we will need to wrestle with the basic underpinnings of the field, namely, “What is communication?” We posit as individuals regularly interact with ubiquitous computers and systems, human-computer interaction will be perceived as communicative as interpersonal interaction, thus calling for a paradigmatic shift in our field. This shift will revitalize Berger’s (1991) call for communication-specific theories, this time with a renewed focus on what constitutes communication, collapsing previously distinct subdisciplines as interpersonal, mass, organizational, and intercultural communication converge.

### **New Tools for Exploration**

Once we have reconsidered the nature of “communication” in social media, our field will need to methodologically adapt to explore the questions and theories driven by that concept. Advancements in the infrastructure supporting social media over the next two decades will increasingly necessitate researchers expand their data collection and analysis toolsets. Research moving beyond its present emphasis on individual or dyadic perceptions to focus on the macro-

level masspersonal communication occurring via social media (users talking to other individuals, across social groups, and simply broadcasting a message for a multitude of users to see, read, and/or hear) will require new tools for collecting and interpreting data. Interactions among billions of users may reflect quintillions of networked, interdependent interactions and data points, far exceeding an individual researcher's ability to collect or interpret. We will need new tools to empirically validate new theories of the huge data corpus generated by social media.

Communication scholars will increasingly need to learn new languages and tools to access, collect, and make sense of these huge data sets, which often represent challenges far beyond those of data collections of even  $N = 10,000$  participants (Williams, in press). Researchers seeking to make sense of this multitude of available data will need to be fluent in programming languages (e.g., Python, SQL, Perl) to access, obtain, and interpret data from servers and application programming interfaces (APIs). Particularly graduate students (at least those studying computer-mediated communication [CMC]) will need training, coursework, mentors, and opportunities beyond the halls of communication to learn these languages and techniques, specifically from the fields of computer science and engineering. Those without the time and resources to learn the languages and technologies driving social media will benefit from collaborators outside of the communication discipline, following the computer-human interaction community.

Though a very pragmatic divination, this call for enhanced tools for communication science has theoretical implications. Foremost is the ability to empirically validate new theories of social media. Knoke, Bohrnstedt, and Mee (2002) note that the development and testing of good theories are reliant on analyzing data to either confirm or reject the theories' propositions. As theories emerge to account for the large-scale, masspersonal, and data-driven communication

of social media, as a field we will need to utilize these enhanced tools to facilitate the quantitative validation of these theories. Additionally, expanding our methodological toolsets through multidisciplinary collaborations will facilitate formulating and answering complex communicative questions. Already we see this tactic exemplified in studies predicting stock prices from the valence of Twitter posts (Bollen, Mao, & Zeng, 2011), understanding complex, global interactions in virtual worlds (Shen, Monge, & Williams, 2014), and tracking political sentiment during elections in real-time (Wang, Can, Kazemzadeh, Bar, & Narayanan, 2012). These studies reflect communication scholars working with colleagues outside the discipline, bringing together communication's interest in the exchange of messages and meaning and other fields' knowledge of how to access systems and information to provide the necessary data. In all, new methodological tools will help us ask new questions of emergent social media and empower us to answer those questions.

### **New Relationships between Communication and Media Studies**

A third priority for the study of social media is the resurgence of an old priority of CMC studies: Distinguishing the confluence and divergence of studies exploring communicative phenomena and media effects. Early studies of computer-mediation were media studies, seeking to understand how different channels facilitated messages (e.g., Daft & Lengel, 1984; Short, Williams, & Christie, 1976). Later studies focused on communication, seeking to uncover how the affordances of various channels enabled (or limited) messages and socioemotional effects (e.g., Reicher, Spears, & Postmes, 1995; Walther, 1996). Though the field continues to try to parse out communication and media studies (as reflected in the division of mass media and technology/computer divisions in most of the field's professional associations), these two related interests will become further conflated with the progression of social media. The communication

channel needs to be reconsidered as being both a modifier (having an impact on construction) and a mediator (a component in a causal chain of media effects) of the message (Ledbetter, 2014). Scholars will need to understand what effects result from the communication within and what effects result from the channels of social media.

For example, the interactivity of social media differentiate them from Web 1.0 tools like static web pages by allowing users to derive value from interaction and other users' content. Hayes and Carr (in press) found merely affording users the opportunity to generate content (e.g., respond to posts, provide feedback or reviews) can alter characteristics of the original content, regardless of whether users actually generate content. Their study demonstrated a media effect, varying the nature of the medium used for communication; however, results also suggest the medium may be a cue in itself, as users generate perceptions of the source based on the characteristics of the channel selected for interaction. A user (be it an individual or organization) may be perceived differently whether they choose to interact online via a static or social medium.

Thus, future theories applied to social media need to be developed and applied carefully, considering the potential for social media to blur the lines between mass media and communication studies. No longer may we silo mass media (McQuail, 2010) and CMC (Walther, 2011) theories. As the medium is inherently part of the message and the message part of the medium, communication scholars will need to carefully understand where these intersections occur and where care must be taken to separate disparate effects or processes. A balance will need to be struck between the communicative elements of social media (i.e., masspersonal communication and perceived interactivity) and the medium characteristics and affordances (i.e., persistence, available channels, medium-specific affordances) when developing theories to provide predictive power focused on the communication and effects thereof within



social media, without chaining theories to specific media tools. A theory only applicable to Facebook will remain utile only as long as Facebook remains stable—changes to the system or users' migration to other social media will render the theory useless. We therefore suggest those developing theories and models of social media allow the communicative, rather than medium, element to guide the theory or model. Focusing theory on communication will help ensure its contribution remains robust over time and media, as social media technologies are sure to change more rapidly than the fundamental nature of human communication.

### **New Means of Access**

While communication constructs should guide theory development, communication will be situated guided by the rules and affordances of social media tools, so that the medium and the message become interdependent. Thus, a final priority of future social media theory and scholarship should be to understand how the methods of accessing a social medium affect its use, users, and communication. This priority will manifest itself in several ways, including the relationships between online and offline experiences, privacy expectations, and user bases.

### ***Modes of Access***

Unlike initial CMC theories which assumed computers were terminals located on either a work or home office desk, theories of social media will need to account for the ubiquity of social media hardware and access, altering the relationship between online and offline. Steinkuehler and Williams (2006) have already called for the reconceptualization of “place” given individuals' increasing interactions in virtual environments. As mobile devices (e.g., smartphones, smartwatches, Google Glass) enable individuals to ubiquitously connect to social media, the integration of these tools into the fabric of life will alter where and how we interact with others and the corporeal world. Second screening, the ability to interact with a media

program or other consumers on one platform (e.g., tablet computer ) while consuming the media content on another (e.g., television) is already altering the way we watch television (Lochrie & Coulton, 2011). Likewise, smartphone-enabled virtual tours, in addition to providing geo-located information about points of interest (Yovcheva, Buhalis, & Gatzidis, 2012), may allow users to interact with previous visitors to further augment tourists' experiences or perceptions. Already scholars (Carr, Hayes, Smock, & Zube, 2013) have suggested mobile social media alter the nature of political engagement and communication, as young voters attending political rallies and events can utilize social media tools to help coordinate attendees, supplement on-site interactions, and obtain more information in real-time about key figures and articulated political platforms. Consequently, whereas previous CMC theories divorced place from messages, emergent social media theories may consider the effect of one's physical location on her or his social media experience, reemphasizing the environment element of previous models of communication, again physically relevant via social media communication.

### ***Expectations of Context and Privacy***

Research already indicates employers' hiring decisions are influenced by applicants' social media presences and portrayals (Bohnert & Ross, 2010; Carr & Walther, 2014), blurring the lines dividing interpersonal and organizational interactions. Petronio's (1991) privacy management theory (PMT) was developed to address how individuals strategically communicated or withheld messages based on transmission medium and potential receivers. However, PMT was predicated on an individual's ability to manage self-presentation. As information in social media is increasingly indexed and cross-applied, the technical and social boundaries around personal information are falling, necessitating adapting PMT or developing new theories to encompass privacy in a setting where information is—by its nature—public.

Individuals interacting via social media will develop new perceptions and expectations of privacy. Already, an individual seeking support in a social medium does so at the expense of publicizing the cause of that support seeking behavior. The cost-benefit analysis of publicizing one's information can be complex as individuals must predict potential gains or benefits from that release of information; but increasingly individuals choose to publicize their private information to attain social capital and maintain connections with others (Ellison, Vitak, Steinfield, Gray, & Lampe, 2011). Thus, future theories will be needed to account, sometimes literally, for these public disclosures of historically private information. What predicts a user's information disclosure? While most SNS users disclose their name to allow others to establish connections, it would be rare for a user to disclose a social security or bank account number given the confidentiality and potential risk of such disclosures. Theorists may find utility in drawing from extant research into game theory (cf. Camerer, 2003) or context collapse (Davis & Jurgenson, 2014; Marwick & boyd, 2011) to understand how and when users decide to make information public across multiple social networks that may idiosyncratically affect how the individual is perceived by each network cluster.

### ***User Bases***

Finally, scholars may wish to consider the variance in communication resultant from the accessibility of various social media tools, inherently affecting the user base of those tools. Although our definition specifies social media are "Internet-based," this tenant merely acknowledges data is transmitted via the infrastructure of the Internet—a broad stipulation that allows for significant variance in the accessibility of social media tools. Thus far, research into social media has capitalized on large, publically-accessible tools to create generalizable knowledge of communication in social media, often utilizing highly-visible tools such as

Facebook, YouTube, and Twitter. Less work has considered interactions in proprietary social media tools only accessible via corporate intranets, with a few notable exceptions (e.g., DiMicco et al., 2008; Thom-Santelli et al., 2010). Rarer still is work addressing *greynets* (applications and networks clandestinely installed within organizational computer networks; Harrop & Armitage, 2005) and *darknets* (private networks using nonstandard protocols to ensure anonymity; Harrop & Armitage, 2005), particularly as involvement in both is often limited only to those with the technical self-efficacy and skills to be able to install necessary software and actually access them. Though all of these networks utilize the Internet for data transmission, the walled gardens of their structure may enable unique communicative processes as compared to more accessible media tools.

Barriers to entry and social contexts within proprietary social media, greynets, and darknets, may affect the nature of user populations and interactions, resulting in nongeneralizable or idiosyncratic communication. For example, although darknet systems are persistent, in that they continue even as individual users log on or off, the anonymous nature of interactions limits users from forming lasting, personal perceptions and relationships (Anonymous, 1998). Additionally, though public social media like LinkedIn foster environments for interactions collapsing social contexts, private social media like IBM's BeeHive may cue users to their intended use for Microsoft-related interactions. Thus, a challenge for developing social media theories will be to, as needed, consider and account for a social medium's accessibility. Whereas a theory developed for open-access social media like Facebook may address generalizable human communication characteristics and effects, a theory developed for limited-access greynets may need to account for the clandestine nature of interactions on that medium, whereby atypical individuals may seek to obfuscate their identities or interactions. An important initial

contribution to this area will be the empirical assessment of the differences in participants, interactions, messages, and feedback between open (in that the majority of those interested can participate) social media and those tools whose access is limited by either membership or knowledge.

### **Moving Forward Theoretically**

Perhaps the greatest challenge to building theories of social media in the future is attempting to account for developments that lay beyond the horizon of these rapidly-changing technologies. Ledbetter (2014) posits communication scholars need to more closely theorize the association between a medium and the communication it conveys. We suggest the first step toward theorizing that association is understanding the core, shared elements comprising these media, and further argue communication may need to be reconceptualized as technology moves forward. As Ledbetter further asserts, “A medium serves as a mediator for other psychological, relational, and communicative effects” (p. 458), and as such, one cannot theorize, for or with social media, without understanding that medium in a way that transcends time and technology. That is, in essence, what this essay does: It establishes an understanding of “social media.”

Theories of social media must be precise enough to predict human communication in extant tools, yet broad enough to account for media not yet available or even predictable: A theory of social media should be able to account for first generation social early such as MySpace and Facebook just as well as it accounts for the next generation, be they the progeny of Google+ (Google× perhaps?) or virtual reality environments. Theory building therefore requires a shared understanding of social media in a way that transcends discipline and contexts (Hempel, 1966; Shoemaker et al., 2003), so that axioms, propositions, and models are derived from a common meaning shared by all scholars and applied equally to all tools that meet the definition’s

criteria. This article advances such a definition, one not entrenched in either specific technologies or social practices and utile to all disciplines and contexts, and thus responds to previous calls for a unified definition of social media (Effing et al., 2011; Kaplan & Haenlein, 2010; Xiang & Gretzel, 2010). As a result, the article and the definition it advances gives the allied communication fields a foundation for future exploration from a unified understanding.

With this foundation in place, we explored the developing social and communicative characteristics and challenges the next generation of social media will likely bring. These characteristics have implications for both society and the study of communication processes; and while it may be implausible to accurately predict all the implications of social media, we have attempted to elucidate the features of social media that will be most impactful for communication scholars. Finally, we divined and prioritized directions for scholarship based on those developments. Specifically, considering the social and technical developments predicted for social media, we call for a paradigmatic shift to include the role of non-human, system-generated, and algorithmic agents, reconceptualizing the very nature of what constitutes communication. In addition, we advocate for new research methods and tools, and a reconsideration of the convergence of communication and media studies to better account for the role of the medium as both a modifier and a moderator in transmission of a message (Ledbetter, 2014).

With a stable conception of what social media are as channels, and how communication is changing to account for them, traditional, new, and multidisciplinary theories will be able to account for the communication and processes occurring in these nascent technologies, and will support scholars in their efforts to understand a dynamically evolving media landscape. These technologies have already woven themselves into the tapestry of our daily interactions, and will

only become more integrated. Thus, the onus will be on researchers to actively prepare to carefully and theoretically study social media and the communication they facilitate as more than mere channels, but sometimes as actors themselves.

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Table 1. Contemporary examples derived from [authors redacted] definition of *social media*

<u>Social Medium</u>	<u>Not A Social Medium</u>
<ul style="list-style-type: none"> <li>• Social Network Sites (e.g., Facebook, QQ ,Google+, YouTube, Yelp, Pheed)</li> <li>• Professional Network Sites (e.g., LinkedIn, IBM’s Beehive)</li> <li>• Chatboards &amp; Discussion Fora</li> <li>• Social/Casual Games (e.g., Farmville)</li> <li>• Wiki “Talk” Pages</li> <li>• Tinder</li> <li>• Instagram</li> <li>• Wanelo</li> </ul>	<ul style="list-style-type: none"> <li>• Online news services (e.g., <i>NYT</i> online, PerezHilton.com)</li> <li>• Wikipedia</li> <li>• Skype</li> <li>• Netflix</li> <li>• Email</li> <li>• Online News</li> <li>• Email</li> <li>• SMS/Texts</li> <li>• Oovoo</li> <li>• Tumblr</li> <li>• Whisper</li> </ul>