Making Transparency Transparent: The Evolution of Observation in Management Theory

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Ethan S. Bernstein
Harvard Business School
Morgan Hall 345
Boston, MA 02163
617-682-7200
ebernstein@hbs.edu

Observation is key to management scholarship and practice. Yet a holistic view of its role in management has been elusive, in part due to shifting terminology. The current popularity of the term "transparency" provides the occasion for a thorough review, which finds (a) a shift in the object of observation from organizational outcomes to the detailed individual activities within them; (b) a shift from people observing the technology to technology observing people; and (c) a split in the field, with managers viewing observation almost entirely from the observer's perspective, leaving the perspective of the observed to the realm of scholarly methodology courses and philosophical debates on privacy. I suggest how the literature on transparency and related literatures might be improved with research designed in light of these trends.

KEYWORDS: transparency, privacy, performance, organizations, management theory

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We are increasingly observed and observing at work. Fifty years ago, a typical manager might have tracked production, revenue, and expenses against budget and periodically observed workers during in-person audits (e.g., Dalton, 1959). Today, advances in technology, from smart cameras to wearable tracking devices, make possible a kind of real-time "SuperVision" (Gilliom & Monahan, 2012) far beyond any level of observability envisioned 50 years ago or when Frederick Taylor (1911) originally promoted managerial oversight through scientific management.

Public attention is captured by extreme examples of observation at work, like handheld computers (Amazon) or wearable bands (Tesco) tracking and optimizing employees' every move (Head, 2014; Kantor & Streitfeld, 2015; Rawlinson, 2013), embedded sensors in large fleets of company-owned trucks (e.g., UPS) recording hundreds of measurements to capture every action of the truck and its driver to unearth and enforce time-saving tactics (Goldstein, 2014; Levy, 2015), cameras at Las Vegas casino Harrah's tracking the smiles of card dealers and wait staff as a proxy for customer service quality (Peck, 2013), point-of-sale systems scraping every transaction for signs of employee fraud (Pierce, Snow, & McAfee, 2015), and RFID (radio-frequency identification)-enabled workspaces automatically capturing factory worker progress (Ranganathan, 2015), how long employees spend at their desks (Zillman, 2016), and even who does and does not use hand-soap and hand-sanitizer dispensers (Dai, Milkman, Hofmann, & Staats, 2015). The US Food and Drug Administration, suspicious of leaks, has tracked some scientists' emails "line-by-line as they were being written" (Johnston, 2016; Lichtblau & Shane, 2012). But even in ordinary workplaces, substantially increased use of observation—"the act of careful watching and listening, or paying close attention to someone or something, in order to get information" (Merriam-Webster Online Dictionary, 2016)—has become widespread over the last

15 years (Bernstein, 2014) through the use of "big data" digital tracking not only of our use of email, instant messaging, calendars, and social networks, but also of our location (through mobile phones, GPS, and RFID), our work (through real-time output monitors), our activity (through video), and even our moods (through facial recognition).

These big-data developments, while viewed as cutting-edge, are in fact the latest phase of a long evolution of observation in management. Observation has always been a foundational element of management and, indeed, of daily life. Only through observation can individuals and organizations understand and control their conditions. But over time, theorists have used different constructs to capture their interest in observation, each construct building on the last. The latest is *transparency*, which not only has caught fire in management practice and scholarship but seems also to have entered the public dialogue far more forcefully than any previous construct for observation. In fact, it is used in many fields, a number of which are related to management. Sociologists, social psychologists, economists, political scientists, anthropologists, and architects have increasingly drawn on theories of transparency to investigate a broad range of questions. Transparency has informed the study and evaluation of markets and economies, countries, governments, societies, schools and education, public health, and other institutions (Hood & Heald, 2006).

In management and organization theory, the concept of transparency has proven to be a powerful aggregate term for a number of constructs that are of interest for their effects on employee and organizational performance:

- Transparency as *monitoring*—any nonhierarchical observation system that gathers information about an activity or task and makes it more widely available. In other words, "let us all see your activity." This can motivate performance (Loughry & Tosi, 2008; Mas & Moretti, 2009; Ranganathan & Benson, 2016; Tapscott & Ticoll, 2003; Waldinger, 2012), communication/sharing of knowledge (Burt, 2001; Gulati, Lavie, & Madhavan, 2011; Hansen, 1999;

Powell, Koput, & Smith-Doerr, 1996; Teece, 1992), learning (Argote, Ingram, Levine, & Moreland, 2000; Driver, 2002; Hackman & Wageman, 1995; Sitkin, Sutcliffe, & Schroeder, 1994), and the modification of behaviors through the peer effects of social information (Allcott, 2011; Beshears, Choi, Laibson, Madrian, & Milkman, 2015; Bhanot, 2015; Goldstein & Cialdini, 2007; Goldstein, Cialdini, & Griskevicius, 2008).

- Transparency as *process visibility*—providing visual information focused on the process or implementation of a workflow or set of activities. In other words, "watch our workflow." This can affect effort and satisfaction, especially in the service industry (Liu, Eisingerich, Auh, Merlo, & Chun, 2015), by reducing customer uncertainty and demonstrating employee effort (e.g., Buell, Kim, & Tsay, 2016; Buell & Norton, 2011, 2014; Staats, Dai, Hofmann, & Milkman, 2016) across otherwise bounded or veiled activities (Rowe & Slutzky, 1963; Vidler, 2003).
- Transparency as *surveillance*—close, constant, and comprehensive supervision by managers. In other words, "we're watching everything you do" or "the few watching the many" (Sewell & Barker, 2006: 935, 937), either visually or through data capture (Agre, 1994; Ajunwa, Crawford, & Schultz, 2017). This can effect both enabling and coercive control over the observed (e.g., Adler & Borys, 1996; Ball, 2010; Ball, Haggerty, & Lyon, 2012; Elmer, 2012; Levy, 2015; Marx, 2012; Pasmore, Francis, Haldeman, & Shani, 1982; Pierce et al., 2015; Sewell, 1998; Sewell, Barker, & Nyberg, 2012; Sewell & Wilkinson, 1992; Wright & Reinhard, 2015), increasing compliance through "Big Brother" effects (Gilliom & Monahan, 2012; Molotch & McClain, 2003; Staples, 2013).
- Transparency as *disclosure*—the act of making new or previously secret information known. In other words, "let me tell you about our work." This can improve market efficiency by making information public (Core, 2001; Healy & Palepu, 2001; Leuz & Wysocki, 2016) and can strengthen relationships within and across organizations, industries, and countries (Admati & Pfleiderer, 2000; Dye, 1990; Lambert, Leuz, & Verrecchia, 2007; Leuz & Wysocki, 2016; Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008), though at some cost to the discloser (Feltham & Xie, 1992; Hayes & Lundholm, 1996; Leuz & Wysocki, 2016; Ribstein, 2005).

The breadth of literatures which find it relevant to study the relationship between transparency—in one construct or another—and performance reflects the degree to which that relationship is a fundamental feature of life: without observing something, we cannot understand, interact with, or improve it. Yet we may ask of transparency whether this "umbrella construct" (Hirsch & Levin, 1999) encompassing so many seemingly different constructs has value in itself.

I argue that it does and that this value can be brought to light by considering three interrelated and previously overlooked insights, not about transparency itself, but rather about research on transparency in all its forms—both the research that has been done and the research that has yet to be done:

(1) There has been a significant bias towards the vantage point of the observer rather than the observed. In other words, the bias has been towards the party gathering information, rather than the party generating the information that is gathered. This bias has obscured observation's impact on the observed and has obscured the observed party's agency in making increased transparency productive or unproductive by controlling his or her generation of honest information. Put another way, we are forgetting that the more one party tries to see, the more the other party may try to hide (sometimes in plain sight).
(2) This bias toward the vantage point of the observer is a consequence of the historical evolution of research on transparency (and observation) in management theory and of the fact that this evolution has been completely divorced from a parallel evolution—outside management theory—of research on privacy.
(3) Incorporating the perspective of the observed—that is, the behavioral consequences of feeling observed and the desire for privacy—will benefit future research on transparency and will also generate important research questions for several related constructs and literatures.

Why have I chosen these aspects of transparency research as the keys to getting the most out of the umbrella concept of transparency? Imagine how odd it would be to pose two questions—"What should parents feed their children?" and "What should children eat?"—and get two (or more) different answers. Parenting may be one field of study and nutrition another, but on the subject of what goes on the child's plate, they ought to converge. My diet example is hypothetical, but we actually do encounter just such a surprising lack of convergence when we ask two questions important to organization theory and to management itself:

- To enhance employees' performance at work, when is it helpful to observe them and when not?
- To enhance one's own performance at work, when is it helpful to be observed and when not?

These questions are logically equivalent. Yet it seems to be human nature to think differently of the observation of others and the observation of ourselves. People tend to be more in favor of the

former than the latter (Lazarus & McManus, 2006: 924–925). Scholarship has so far aligned with that human tendency. In answering the first question, most scholars will—naturally, it seems—invoke the logic of transparency; in answering the second, most will instead invoke the logic of what seems to be the opposite construct—namely, *privacy*.

The logic of transparency is fundamentally based on the premise that more—and more accurate—awareness of others improves learning and control and therefore improves performance, as shown by the positive ("+") relationships in Figure 1. This is the model of the relationship between transparency, learning, and control most commonly in use. Yet what we learn from the logic of privacy is how the *impact* of transparency can fall very differently on the observer and the observed (see Figure 2). When we are the object of transparency rather than the recipient of it—when the increased "awareness" is of us rather than of others—then we may more acutely

Figure 1: Existing Paradigm for Transparency.

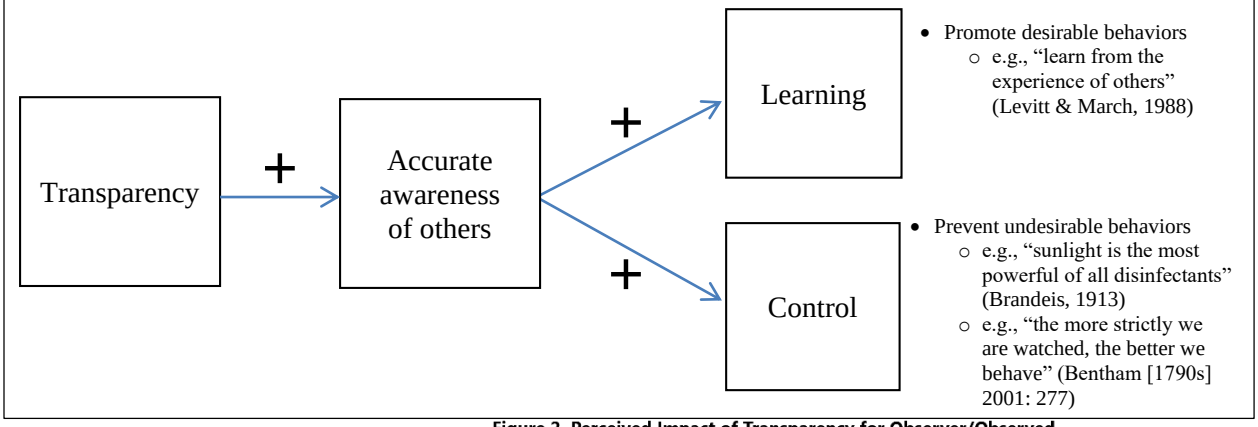
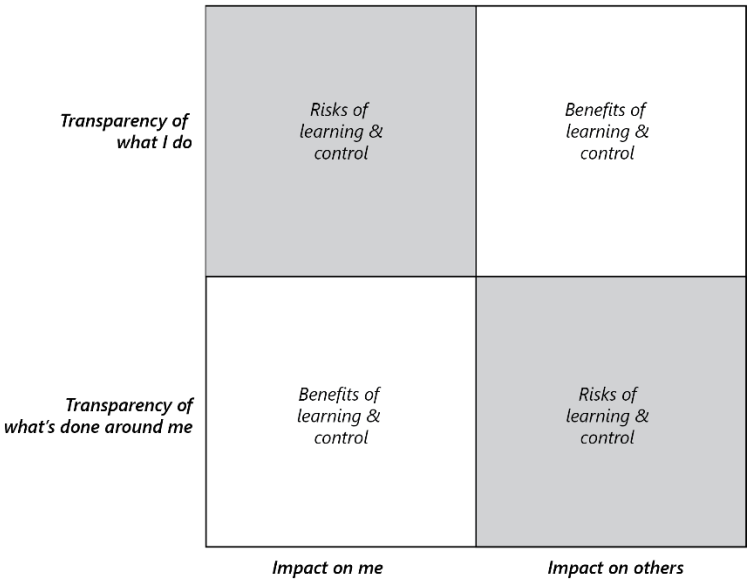


Figure 2. Perceived Impact of Transparency for Observer/Observed



feel the risks of learning and control rather than their benefits. For example, we may feel exposed to others' potentially inaccurate interpretations of what they see, and we may feel exposed to the conforming pressures of others' expectations and increased ability to control us. That "exposure" is the foundation of the human desire for privacy and the reason why, without putting the transparency and privacy constructs in conversation with each other—as they historically have not been—our two questions about performance continue to call forth inconsistent answers rather than the single answer that is logically required.

To date, the transparency and privacy literatures have talked past each other. MIT sociologist Gary Marx observed that "the field is diffuse, scholars lack agreement on many important issues and knowledge is not very cumulative" (Marx, 2012: xxvii), leading him to identify the research as "multi-disciplinary" rather than interdisciplinary (2012: xxvii). Where a meta-theory has been attempted, the voice of management scholars has been largely silent; for example, in Roessler and Mokrosinska's (2015) fairly recent *Social Dimensions of Privacy: Interdisciplinary Perspectives,* as in most previous edited volumes on privacy and transparency, management scholars are not represented. Thus, the problem is not that transparency and privacy are undertheorized. The theoretical groundings for those literatures are deep and well explored, ranging from Goffman's (1959) backstage/frontstage to Foucault's (1977) Panopticon. Rather, *these two bodies of knowledge have not been rendered actionable for management scholarship and have not been sufficiently linked within it.* Management academia has thus mirrored management practice, in which transparency is the purview of executives and IT while privacy is relegated to the legal and HR departments. This silo-ization continues despite the fact that, in real working life, transparency and privacy are clearly related, each commonly experienced as a compromise or even violation of the other.

The time is ripe for a synthesis which can offer a coherent frame to our own field's question of how observation affects employee performance in contemporary workplaces. For several reasons, I argue that such a meta-theoretical frame be pursued *within* management and organizations scholarship and need not be imported into it. First, the "open office" and "open data" workplace—more so even than the halls of public policy—has become the forum for experimentation with transparency (Anderson, 2008; Feifer, 2013; Konnikova, 2014; Tierney, 2012). Second, a focus on organizations permits a more practical rather than a political perspective, backgrounding deep societal or philosophical "right to know" and "right to privacy" arguments and instead embracing the pragmatism of management and organizational theory and a narrow focus on the performance implications of transparency. Third, while organizations can be microcosms of society, they also can operate differently, such that certain intractable research questions for society—such as how much transparency and privacy there should be—may be tractable within organizations. For example, the effects to be investigated—individual and collective performance—are more amenable to definition and measurement in an organization than in society as a whole, while the causes—observation, transparency, privacy—may at least be less difficult to define and measure in an organization than in society as a whole.

In the spirit of Weick's (1999) plea for academic dialogues that reconcile in place of monologues that overwhelm ("paradigm wars"), I first examine the histories of the concepts of transparency and privacy, with a focus on organizations. I then try to bring them together (Tables 2 and 3) and propose modifications to theory on observation in management, adjusting Figure 1 in the process (Figure 7). Finally, I extract a set of future research questions from that integration (Table 4).

A HISTORICAL TRADITION OF OBSERVATION IN MANAGEMENT

"I'm Yurtle the Turtle! Oh marvelous me! For I am the ruler of all that I see. But I don't see enough, that's the problem with me." Dr. Seuss

Reporting the observed actions of others is "almost as old as writing itself" (Wax, 1986: 21) and providing a full history of observation would require a scope far beyond my own. I merely wish to illustrate the evolution of observation in management (while including influences from other fields), focusing on key moments or contributions essential to understanding the rise of today's multidisciplinary dialogue on transparency and its bias towards the perspective of the observer rather than that of the observed.

Roots in Philosophy and Natural Science

The history of observation in management can be traced back to ancient Greek philosophical debates between empiricism and rationalism (Bernard, 2011). Rationalists such as Plato saw human intellectual progress as the result of thought—the human capacity to reason and, through reason, to achieve knowledge of a priori truths (as later expressed in the memorable opening, "We hold these truths to be self-evident"). Empiricists such as Aristotle, on the other hand, saw human intellectual progress primarily as the result of observation and thus to be achieved through induction rather than deduction or reason. (For an historical review of the clash between rationalism and empiricism, see De Santillana & Zilsel, 1941.) In scientific progress, history has proven the value of empiricists: up through the early seventeenth century, empiricism—or, more precisely, systematic *observation*—characterized most scientific breakthroughs, from the observational astronomy of the ancient Mayans and Egyptians to Galileo's defense of Copernican theory to Newtonian physics.

By about 400 years ago, such systematic observation in natural science had led to the creation of the scientific method, defined as "a method… consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses" (Oxford English Dictionary, 2015). (For a more detailed treatment, see, for example, Bernard, 2011; Gower, 1997.) Systematic observation in *management*, however, came much later. While seventeenth- and eighteenth-century empiricists such as John Locke, David Hume, Immanuel Kant, Voltaire, and the empiricists of the French and Scottish Enlightenments began to systematically observe human behavior and therefore lay the groundwork to make the scientific study of humanity as tenable as the scientific study of nature, it was not until the nineteenth century that formal programs to systematically apply the scientific method to the study of humanity were initiated by Auguste Comte, Claude-Henri de Saint-Simon, Adolphe Quetelet, and John Stuart Mill (Bernard, 2011: 8).

Even then, the most palpable successes of observational empiricism were in the natural sciences, perhaps none more exemplary than that of Charles Darwin. As Ray (2011: 290) explains:

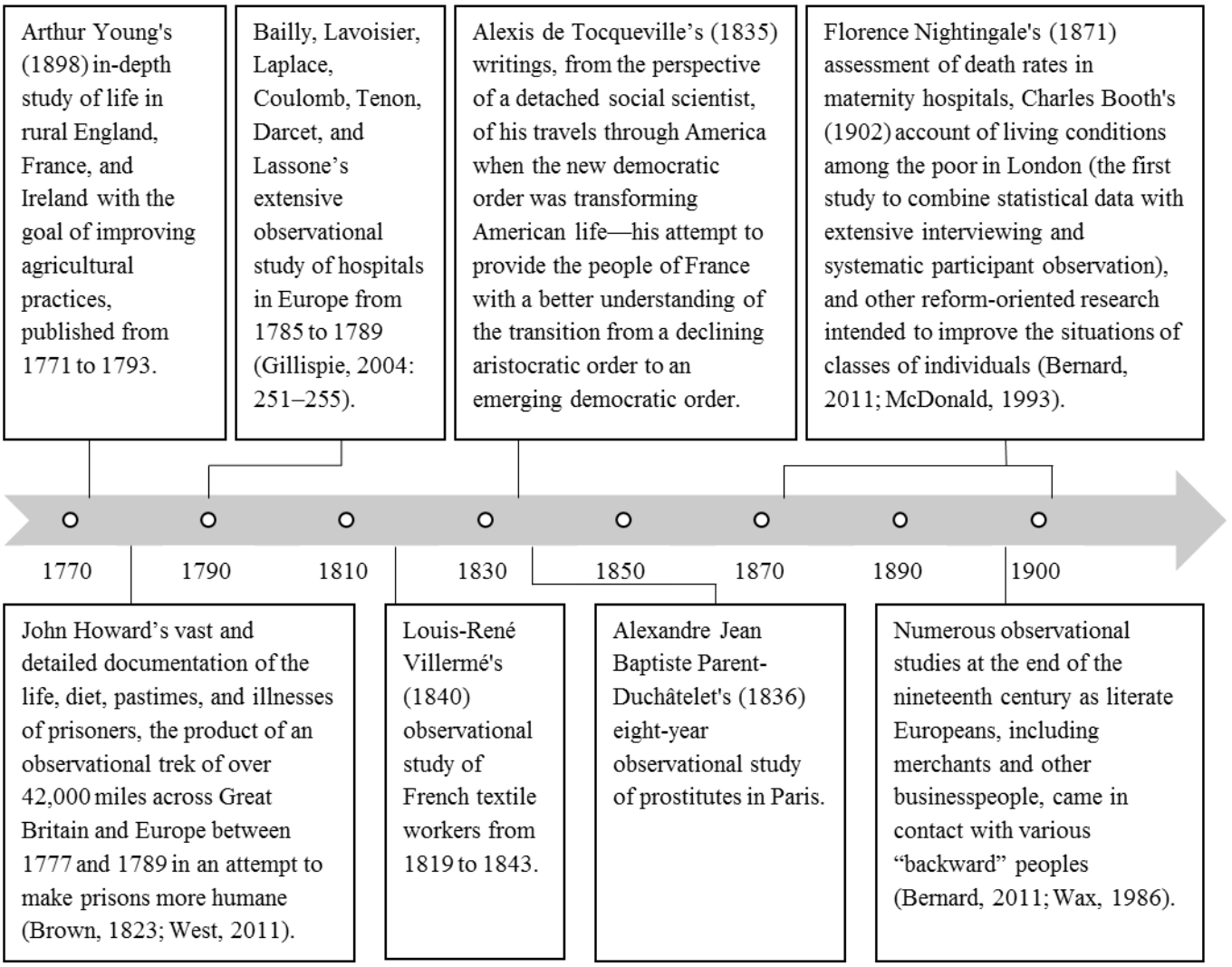
> Perhaps the greatest single application of the technique of naturalistic observation was Darwin's 5-year voyage on *HMS Beagle* [1831-1836], during which he compiled many detailed descriptions of plant and animal life over a large part of the world. Darwin's early work demonstrates two functions of naturalist observation. First, it allows us to amass descriptive knowledge about a phenomenon. Second, as we become more familiar with it, we may gain insight about general patterns or lawful relationships in the phenomenon.

From Natural Science to Management Science

Early seeds. With each stage in the progress of systematic observation in the natural sciences, interesting parallels emerged in the observation of human activity and the early precursors of

management science. As accounting systems emerged in ancient civilizations, so did the demand for observation ("oversight") of business affairs to feed the accountant's needs (Brown, 2006). In fifteenth-century Florence and Venice, observation was already a key part of management (Pacioli, 1494), informing the early record-keeping that became crucial to the success of Florentine and Venetian merchant families (Gleeson-White, 2012) such as the Medicis (Napier, 1847) and other near-contemporaries of the birth of the scientific method. In law, the contemporaneous development of early agency doctrine (laws governing master-servant and principal-agent relationships), by which one person could be liable for the torts of another, created the need for oversight of employees, partners, and any other agents by the principals who could be bound and implicated by their actions (Hay & Craven, 2005). As in the natural sciences, there was a slow but steady increase in the demand for observation. However, the purpose of observation in business and law was not simply learning, as in the natural sciences and Darwin's work, but also to influence and ultimately control. In the eighteenth and nineteenth centuries, there was an explosion in the use of such control-focused, purposeful observation in what might today be called management studies (see **Figure 3** for characteristic examples).

Figure 3: Timeline of Characteristic Observation Studies of the Eighteenth and Nineteenth Centuries



As some reviews have noted (e.g., Wax, 1986), it is curious that all of this research that blended social and management science was conducted by well-educated individuals *outside* of academia. In modern terminology, this boom in observational research was conducted almost exclusively by practitioners willing to immerse themselves in the contexts they wished to observe in hopes of learning from it and, ultimately, influencing it.

Taylorism: From observation of the outcome to observation of the process. Systematic observation for learning and control did not come into the foreground of the practice of

management, however, until Frederick Winslow Taylor sought to apply the scientific method—and therefore systematic observation—to the problem of employer-employee agency. Like other scientists who came early in the history of a particular field, Taylor's goal was that "every motion, every small fact becomes the subject of careful, scientific investigation" to "replace the old, 'I believe so' and 'I guess so'" (Taylor, 1911: 51–52).

Taylor, an engineer with more than 40 patents for a wide range of experimental productivity tools (including a new kind of railroad car wheel, a steam hammer, a boring and turning mill, a device designed to move growing trees, a device that maintains tautness in a tennis net, and even a Y-shaped two-handed putter for golf), put rational scientific inquiry and experiments at the heart of his view of the world. For Taylor, scientific management had to begin with observation, the "deliberate gathering in on the part of those on the management side of all of the great mass of traditional knowledge, which in the past has been in the heads of the workmen, and in the physical skill and knack of the workmen, which they have acquired through years of experience" (Taylor, 1912: 1393). Although Taylor's first apprenticeship as a patternmaker at a small pump-manufacturing firm in Philadelphia and his subsequent multitude of roles (machine shop laborer, machinist, gang boss, maintenance foreman, shop disciplinarian, master mechanic, chief draftsman, research director, and chief engineer) at Midvale Steel Works formed the basis for his theory of scientific management (Kanigel, 1996, 1997), Taylor did not limit scientific observation to his work life. He drew on it to win the first doubles tennis tournament at the US Open (then called the US National Championship) (Blake & Moseley, 2011). Even as a child, on a family trip to Europe, he kept exhaustive track of the times that the Taylor carriages reached and departed each station, marking with a star the ones "where we stopped to get something to eat" (Greco, 1999) so he could calibrate his efficiency measures of the carriages and family

travel accordingly. In each case, the observation enabled learning that was intended to improve and control future processes and tasks. Best known for stories about the optimization of tasks as simple as pig-iron work, bricklaying, and shoveling, Taylor's approach slowly but steadily found adopters across a wide spectrum of work. It is, perhaps, for that reason that some claim Taylor as the father of management science—for, quite literally, bringing scientific observation into management.

Hawthorne: From observation of work to observation of the worker as a person. In the late 1920s and 1930s, Elton Mayo and a team of researchers endeavored to study—through experimentation at Western Electric's roughly 30,000-person factory in Hawthorne, a suburb of Chicago—the effects of changes to the work environment (for example, changes in lighting, work hours, rest breaks, and food eaten during breaks) on productivity (Mayo, 1933; Roethlisberger & Dickson, 1939). The Hawthorne studies began with tests of the effect of lighting intensity on worker productivity (1924), proceeding to a broader set of experiments on work conditions in the Relay Assembly Test Room (1927–1932). These earlier stages of the Hawthorne studies produced the famous yet controversial finding of the Hawthorne Effect (Carey, 1967; Jones, 1992; Levitt & List, 2009); the research team claimed that productivity rose simply in response to the fact that the workers were aware they were being studied (Mayo, 1933; Roethlisberger and Dickson, 1939). These first experiments also alerted the research team that studying the work itself was not enough to explain productivity; they needed to study the workers as people. As a result, with the help of the company's new Industrial Research Division, they engaged in deep interviews with 21,126 workers (1928–1930), chronicling the social and often quite personal influences on productivity (Roethlisberger & Dickson, 1939: 204). Those interviews and the diaries they produced culminated in the Bank Wiring Room observation study

(1931–1932), known for identifying the significant effect of working in groups or cliques—and of the dynamics of those groups—on individual productivity.

The Hawthorne studies therefore marked a well-cited shift in the field of management scholarship, from Taylor's attention to the effect of mechanical and physiological variables on productivity to a "human relations" school focused on the influence of human behavior and social factors on productivity (see Scott (1981) for a thorough review; also see Roethlisberger & Lombard (1977) and Guillén (1994)). For purposes of this review, it marked a corresponding and dramatic shift in the role of observation in management and organization theory from foregrounding *observation of the work* itself to foregrounding *observation of the worker* as a person and her or his interaction with the work environment. With that came an understanding that if you prematurely sought to control the work, you would lose potential learning that could be gleaned from the worker.

The legacy of the Hawthorne studies and the Chicago School: A divide between observation in academia and in practice. In retrospect, the Bank Wiring Room observation study was a key moment in the development of observation in management scholarship for another reason: the infusion of anthropological observation caused a scholarly shift in focus from informing the observer (for the purpose of better management) to preserving the observed (for the purpose of better research and learning). Elton Mayo, who counted among his friends leading anthropologists Bronislaw Malinowski and Alfred Radcliffe-Brown (Wright, 1994), invited one of Radcliffe-Brown's students, Lloyd Warner, to help lead the Bank Wiring Room observation study and to apply anthropological observation techniques—such as the ones he had just used to study Aborigines in Australia—to the workplace (Roethlisberger & Dickson, 1939: 389). Based

on historical diaries, it was Warner the anthropologist, not Mayo the management scholar, who was responsible for the deep observation at Hawthorne:

> Mayo was much more the armchair theorist, something of a convivial and persuasive dandy, who infrequently visited the plant, content largely to concern himself with the funding, design and direction of the studies from a pleasant—although externally funded and rather marginal—position at the Harvard Business School (Van Maanen, 2013).

Indeed, in the 1920s and 1930s, management scholars learned a great deal from the anthropologists about how to observe. For example, the Chicago School of fieldwork, which originated in the University of Chicago sociology department in the 1920s, drew heavily on ethnographic and participant observation techniques in social anthropology to observe ethnic groups in Chicago, including early studies on the taxi-dance hall, the professional thief, the hobo, the boys' gang, religious communities, ethnic enclaves (such as the Jewish ghetto and the Polish community), and occupations ranging from janitor to physician to jazz musician (Barley, 1989). Through the influence of the Chicago School, observational studies proliferated and the Bank Wiring Room study soon became just one of a constellation of classic observational ethnographic studies in management focused on an individual observer's direct observation of human behavior in the workplace (Gill & Johnson, 2010: 151–152), some of which are captured in Table 1 (for more detailed summeries, see Baba, 1986, 1998, 2006, 2012; Bate, 1997; Burawoy, 1979a; Cefkin, 2009; Chapple, 1953; Erickson, 2011; Gardner, 1977; Gillespie, 1993; Holzberg & Giovannini, 1981; Mauskapf & Hirsch, 2015; McCall, 2006; Morey & Luthans, 1987; Schwartzman, 1993; Vidich & Lyman, 2000; Watson, 2011; and Wright, 1994).

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Table 1 is also evidence that the practice of observational studies had passed from the practitioners of the eighteenth and nineteenth centuries to professional academics. Academics

were now seen to have an advantage in part because of the widely shared belief that, as the anthropologist Clyde Kluckhohn (1949) so vividly put it, "it would hardly be fish who discovered the existence of water" (1949: 11), but also because the injection of social anthropology methodology led academics to place a premium on observational objectivity (Wright, 2013: 103) and on not affecting the environment being studied (as the initial Hawthorne studies were openly intended to do). Just as twentieth-century physicists became aware that instruments intended to merely observe particles by necessity altered their state or path (the so-called observer effect), so too did social scientists. Their response was an imperative to adopt methods of observation likely to provide them a window into how workers acted in their natural contexts, not just in the presence of an observer. If control had been an innovation of Taylor's management science, this new innovation was actually a return to the pure learning orientation of Darwin's observation.

Nor was the increasing premium on observational objectivity limited to the "macro" realm of sociologists and anthropologists. In the 1950s, early social psychology research on groups also focused on observation. Robert Bales's interaction process analysis (IPA) theory and coding system (Bales, 1950), problem-solving phase analysis (Bales & Strodtbeck, 1951), and, later, SYMLOG theory (Bales & Cohen, 1979), along with Wilfred Bion's system for coding work and emotionality interactions in groups (Bion, 1961), laid the foundations for decades of group research grounded largely in pure observation and recording of group behavior to bring out patterns and develop theory. Solomon Asch's (1951, 1956) famous conformity and social comparison experiments explored the effect of peers observing each other. Robert Zajonc (1965, 1968), building on early work by Allport (1924), sparked a vibrant literature on social facilitation when he demonstrated that people perform simple or well-learned tasks, such as basic clerical

chores, more quickly and/or more accurately under "mere observation" by others than when alone, but given complex tasks, perform better unobserved (e.g., Aiello & Kolb, 1995). The increasing use by social psychologists of the one-way mirror, originally called the "transparent" mirror when it was patented in 1903, was yet another manifestation of academics' use of observation as a tool for study.

Scholarly emphasis on the purely objective and placebo-like use of observation created a *divide* between the ways academics and managers used observation (Anteby, 2013). To oversimplify, academics—in the tradition of anthropology—wanted to avoid Hawthorne effects (Mayo, 1933) and keep observations pure; the imperatives to observe closely and not to affect were given equal weight and held closely in tension (Wright, 2013: 102). Managers, on the other hand, were perfectly happy to see observation affect behavior if they perceived it to increase productivity. For academics, observation was a tool for study; for those within organizations, it was increasingly viewed as a tool for productivity (i.e., learning *and* control)—a technology to be used and improved.

Observation as a Technology

For most of the history of observation in management, the human eye was the primary technology. That remained true even after the creation of film and portable still photography at the turn of the twentieth century. But it began to change in the middle of the twentieth century as technology increasingly needed to "interface with"—that is, observe—the worker.

In management scholarship, the transition to observation as a technology accelerated in 1949, when Eric Trist, an early member of the Tavistock Institute, conducted his famous observational research in the South Yorkshire coal mines, research that ultimately led to the creation of the

field of sociotechnical systems (STS) (Trist & Bamforth, 1951; Trist, Higgin, Murray, & Pollock, 1963). STS, founded on the principle that the joint optimization of social and technical factors of production creates the conditions for optimal organizational performance, "contends that organizations are made up of *people* that produce products or services using some *technology*, and that each affects the operation and appropriateness of the technology as well as the actions of the people who operate it" (Pasmore et al., 1982: 1182).

Although STS "remained a largely under-appreciated domain throughout the 1960s and 1970s, the sociotechnical 'movement' re-emerged in the 1980s and beyond" (Hettinger, Kirlik, Goh, & Buckle, 2015: 600; for a full review of STS, see, for example, Pasmore et al., 1982), in part through its influence on three other literatures that are becoming symbols of modern enterprise: computer-supported cooperative work (CSCW), human-computer interaction (HCI), and, most recently, human-robot interaction (HRI). Each of these multidisciplinary, technology-centric literatures has become active and influential beyond its academic journal (*CSCW Journal*, *HCI*, and the *Journal of Human-Robot Interaction*, respectively), in part because more research on observation is being conducted in these fields than in all the other management scholarship fields combined. The observation under consideration in those fields, however, has a different flavor: it involves the digital observation of workers, so that machines and computers can support, respond to, and even interact with them. If we want "Siri" to give us good advice, "she" has to learn to understand us.

For example, CSCW, the name of which was coined by Irene Greif and Paul Cashman back in 1984, grew out of early research studying how collaborative computing technologies (early forms of conferencing systems, email, blogs, chats, groupware, and the like) in the 1950s, 1960s, and 1970s might impact how work was done. In the 1980s and 1990s, the field exploded due to

"practical but potent technical developments" (Schmidt & Bannon, 2013: 346) ranging from the Internet, the Web, groupware, and ubiquitous email to social media, mobile interaction, and widespread connectivity. The CSCW field has variously labeled these radical innovations "computer-mediated communication" (e.g., Kerr & Hiltz, 1982; Kiesler, Siegel, & McGuire, 1984), "teleinformatics" (e.g., Speth, 1988), "office information systems" and "office automation" (e.g., Hammer & Sirbu, 1980), "collaborative working environments" (e.g., Prinz, 2006), social "collaboration technologies" (e.g., Bentley, Busbach, Kerr, & Sikkel, 1997), advanced forms of "computer conferencing" (e.g., Grasso & Convertino, 2012), "context-aware computing" (e.g., Schmidt, Gross, & Billinghurst, 2004), augmented and mixed-reality interfaces (e.g., Billinghurst & Kato, 2002; Wagner, 2012), the Internet of things (e.g., Atzori, Iera, & Morabito, 2010), and smart connected products (e.g., Porter & Heppelmann, 2014), among others (Schmidt & Bannon, 2013). This collection of labels hints at—but doesn't directly identify—a key commonality across all of these CSCW technologies: in order to marry technology with people and achieve the joint optimization that the STS literature originally identified requires that technology do a better job of capturing, in digitalized and therefore analyzable data, its *observation* of people. Put another way: for technology to work with us in the fullest way possible, it has to be able to observe us as fully as we humans observe each other.

Accompanying CSCW research is a recent surge in research on HCI (for historical reviews, see, for example, Baecker, 2008; Bannon, 2011; Myers, 1998; and Preece et al., 1994), building on early efforts to improve computer usability, and an even more recent surge in research on the design of HRI to improve robot usability. In contrast to Taylor's studies of pig-iron workers and bricklayers, the highly cited work of these researchers concerns the likes of "multimodal child-

robot interaction" (Belpaeme et al., 2012), "seamless human-robot handovers" (Strabala et al., 2013), and "coactive design" (Johnson et al., 2014).

Such work differs vastly from the observational studies of the past. As one author in *Wired* magazine argues in an article entitled "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete":

> Sixty years ago, digital computers made information readable. Twenty years ago, the Internet made it reachable. Ten years ago, the first search engine crawlers made it a single database. Now Google and like-minded companies are sifting through the most measured age in history, treating this massive corpus as a laboratory of the human condition. They are the children of the Petabyte Age. The Petabyte Age is different because more is different (Anderson, 2008).

Whether or not this is a revolution in science itself (Kuhn, 1962), it is an important shift in the evolution of observation in management: from *observing technology* (whether that technology was oriented to organizations, tasks, processes, groups, or individuals) to *being observed by technology*. It is now practical—even cheap—for organizations to track Internet usage, sites visited, and software opened; to monitor e-mail communications; to log keystrokes, cookies, clicktrails, and improper distribution of intellectual property (using "snitchware"); to listen in on telephone conversations and meetings; to screen caller IDs; to conduct video surveillance, including the use of recognition technologies to determine gender, age, and even identity on low-resolution security monitor footage; to monitor location through GPS software embedded in mobile devices or vehicles; to track who is meeting with whom using mobile phone sensors; and to conduct sense-enhanced searches which look through clothes or skin to uncover hidden threats, anxiety, or even mood/emotion (Froomkin, 2000; Levinson, 2009; Smith-Butler, 2009). All of these methods and more are now in wide use (Ball et al., 2012; Court, 2004; Swaya & Eisenstein, 2005). Of 304 leading US companies surveyed by the AMA/ePolicy Institute in 2007,

45 percent tracked accessed Internet content, keystrokes, and time at the keyboard; 45 percent monitored phone use; 43 percent monitored email (and two-fifths of those firms employed people to manually read and review employees' emails); 16 percent recorded phone conversations; and 7 percent used video surveillance to track on-the-job performance (AMA, 2007). The resulting data is voluminous and permanent (Jones, 2003) and it is no coincidence that the rise of "big data" coincides with the increased use of the term "transparency" in management. As work relationships become increasingly machine-mediated (Turkle, 2011), the opportunities and need for observation increase significantly.

The field of management was once focused on observing organizational *outcomes*, but the steady advance in enabling technologies (for a review, see Kidwell & Sprague, 2009) has fed the hunger for more and more data on *micro-activities* in order to predict and control future macro-outcomes. Such observation is also no longer only an activity of owners and stakeholders. At Amazon, for example, peers observe each other and can report to management what they see—praise or criticism—through the Anytime Feedback Tool, which is part of the company directory (Kantor & Streitfeld, 2015).

These technological shifts have, in turn, brought a growing number of academic fields into the discussion and investigation of "observation," which, in turn, tends to have a splintering effect on the construct of observation. Table 2 summarizes these trends, which form the foundation for the current role of transparency in management and organization scholarship.

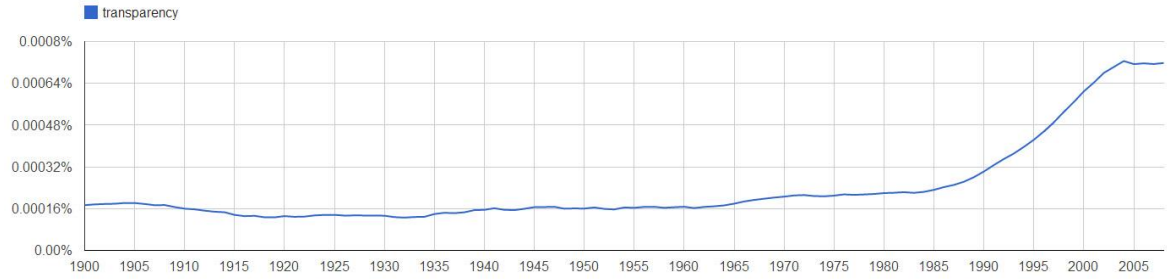
---------- INSERT TABLE 2 ABOUT HERE ----------

A New Era of Observation in Management: From Observation to Transparency

Though the label transparency is relatively new in management scholarship, "transparency" is a term both old and new. As far back as the 1400s, it was narrowly defined as "perviousness to light; diaphaneity; pellucidity" (Oxford English Dictionary, 2015)—what we typically refer to as "transparent," which is derived from the roots *trans* ("through") and *parere* ("appear") (Harper, 2016). In the last 25 years, consistent with the evolution of observation in management and organization theory described above, the definition of "transparency" has expanded to include "openness," "freedom of information," "clarity," "accuracy," the timely release of all relevant information, and even "truth" (Collins, 2008; Hood, 2006; Schnackenberg & Tomlinson, 2014), although that transformation in popular usage appears to have taken place organically without any official or critical debate (Heald, 2006: 4).

That definitional expansion has made transparency one of the great themes in management theory today. The term is measurably more prevalent: in 2009, it was deemed the tenth-most-used word in global print and electronic media (GlobalLanguageMonitor.com, 2009). It appeared in over 27,000 academic articles between 2000 and 2009, 15 percent of which were related to management, a sixfold increase in the percentage from the previous decade based on searches through ABI/Inform, EBSCOHost, and ISI Web of Knowledge. After a rather steady presence in books for almost a century, its use increased fourfold in the 1990s in books tracked by Google

Figure 5: Transparency Appearances in Text



Source: Google Books Ngram Viewer (http://books.google.com/ngrams/)

(see Figure 5). *Webster's New World College Dictionary* named it "Word of the Year" in 2003 (Browning, 2003: 6B), defining it tongue-in-cheek as "a policy with a positive spin, promising uncensored exposure of records, moral conduct, and virtue." As the term has become much more frequent, transparency itself has become "unambiguously a Good Thing, and upheld as one of society's virtues… it's become conventional wisdom to seek greater transparency" (Collins, 2008: 2). The last two decades in particular have been marked by a "dogma of transparency" (Collins, 2008: 1), a "cult of transparency" (Böhm, 2005: 3), and a transparency movement with a "quasi-religious character" (Hood & Heald, 2006: 3). In short, transparency is "en vogue" (Keegan, 2003: 1). It even has a democratic ring to it despite its intellectual roots in both learning *and* control; it is now "deemed inappropriate, if not undemocratic, to argue for the opposite" (Welch & Rotberg, 2006: 937). As one transparency expert stated, "transparency is very much related to freedom, the quality of our relationships, the quality of our lives and the sustainability of our society" (Lazarus & McManus, 2006: 925). Oxford Professor of Government Christopher Hood (2006: 3), in his chapter providing a historical perspective on transparency in government, concludes:

> [The word "transparency"] is nowadays pervasive in the jargon of business governance as well as that of governments and international bodies, and has been used almost to saturation point in all of those domains over the past decade (Hood, 2001: 700–704). We might almost say that "more-transparent-than-thou" has become the secular equivalent of "holier than thou" in modern debates over matters of organization and governance…. Like many notions of a quasi-religious nature, transparency is more often preached than practiced, more often invoked than defined, and indeed might ironically be said to be mystic in essence, at least to some extent.

Such popularity has, perhaps inevitably, spawned a backlash. While some treat transparency as a basic "human right" (Birkinshaw, 2006: 177), regardless of its consequences, objections have been raised and it has been suggested that this right be replaced by a functional rationale; that is,

that instances of transparency be judged for their instrumental value—particularly with respect to performance—rather than for some intrinsic value (Best, 2005; Heald, 2006)**.**

Judging transparency based on instrumental rather than intrinsic value implies returning to transparency's functional roots: its impact on learning, control, and productivity as summarized in the introduction and Figure 1. Those functional roots are most obvious in the adoption of the word transparency in government and public sector administration, where use of the term incubated. *The Oxford Dictionary of Economic*s, for example, defines "transparent policy measures" as "making it clear who is taking the decisions, what the measures are, who is gaining from them, and who is paying for them," adding that "economists believe that policies are more likely to be rational if they are transparent than if they are opaque" (Black, 2003). In a similar vein, the Asian Development Bank defines transparency as "the availability of information to the general public and clarity about government rules, regulations and decisions" (Asian Development Bank, 1995). Those public sector definitions tie back to Rousseau's "les yeux du public" [the eyes of the public] (Rousseau, 1772), Foucault's belief that "other things equal, that sort of man whose conduct is likely to be most narrowly watched, is therefore the properest man to choose" (Bentham, 2001: 381), and Bentham's proposition that "I really do take it for an indisputable truth, and a truth that is one of the corner-stones of political science—the more strictly we are watched, the better we behave" (Bentham, 2001: 277).

If Bentham is correct, then why has the dialogue on transparency moved from instrumental to intrinsic value? In part, it is due to the difficulty of empirically demonstrating the instrumental value of transparency, a perennial shortcoming I turn to next.

Perennial Shortcomings of Transparency as a Construct

Measuring transparency—a critical part of empirically demonstrating its instrumental value—has proven extremely elusive. While some researchers have investigated the effects of certain transparency manipulations on performance (e.g., Alt & Lassen, 2006; Bernstein, 2012; Hollyer, Rosendorff, & Vreeland, 2011; Islam, 2006), developing more rigorous measures and validated scales to measure transparency in organizations remains a significant opportunity for future research.

The absence of clear scales for measuring transparency is not, however, simply an oversight of previous research. Organizational transparency is surprisingly hard to measure in a meaningful way—"meaningful" defined as correlated with actual behavior and performance. To a large extent, that is due to what might be considered a denominator problem. Transparency is ideally measured as the fraction of all that *could* be transparent (the denominator) that actually *is* transparent (the numerator). Yet without 100-percent transparency—and the sure knowledge that there is 100-percent transparency—who can say how much could have been transparent that isn't? In most real-life situations, this is unknowable.

A more practical way, then, to measure organizational transparency is to measure practices *intended* to encourage transparency. Figure 4 captures the few scales which have been used to measure organizational transparency or something similar to it, categorized by the two dimensions on which authors have focused: (a) upward transparency (from the front line to management) or downward transparency (from management to the front line) and (b) enforced transparency (the degree to which systems or policies force transparency) or discretionary transparency (the degree to which individuals or groups choose to share transparently).

---------- INSERT FIGURE 4 ABOUT HERE ----------

Although practical, the problem with measuring organizational transparency by practices is that those practices are not always correlated with actual transparency. Why aren't they working? Rousseau ([1762] 1993: 154) knew the answer 250 years ago: transparency practices may, "instead of exposing frauds, only conceal them; for prudence is never so ready to conceive new precautions as knavery is to elude them." To this day, the ingenuity of observers in designing new systems for transparency is still no match for the ingenuity of the observed to hide (Levy, 2016). With increases in measured transparency, scholars have found increases in impression management (Giacalone & Rosenfeld, 2013; Rosenfeld, Giacalone, & Riordan, 1995), window-dressing (Prat, 2006: 93), posturing (Walton & McKersie, 1965), pandering (Stasavage, 2006: 169), political correctness (Morris, 2001), and a "chilling effect" on open dialogue (Solove, 2006: 488, quoting Laird v. Tatum, 408 U.S. 1,1,13 (1972)). Indeed, one study found a "reverse Hawthorne effect" from transparency: because transparency enables those who are being observed to better see their observers, it makes it easier for them to hide anything they want to hide (Bernstein, 2012). As introduced in Figure 2, the learning and control enhanced through transparency can trigger both the perception of benefits and the perception of risks. The eye of the beholder is particularly important in determining how practices intended to create transparency actually play out.

Chief Justice Louis Brandeis famously observed that "sunlight is the most powerful of all disinfectants" (Brandeis, 1913). But the infection often turns out to be a moving target. To truly understand and measure advances in transparency, therefore, one needs to understand the motivations of the observed to hide. As we saw earlier, mid-twentieth-century ethnographers understood this, creating methodologies for observing without changing the behavior of the observed. As management scholars, what would our research on transparency look like if we

took a more balanced approach to observability and transparency, incorporating the perspective of those who are being observed? In fact, a great deal is already known about why people hide when observed in organizations. We need only turn to yet another long-unobserved (though not hidden) resource—the literature on privacy.

A HISTORICAL TRADITION OF ELUDING OBSERVATION: FROM PRIVATE TO PRIVACY

The word "privacy," just like the word "transparency," has such an "embarrassment of meanings" (Solove, 2006: 477) that it is well understood yet poorly defined. Nonetheless, it is "used often and extremely valuable to many people" (Foye, 2008: 1). In daily life within organizations, the all-too-common phrase "let me give you some privacy to get that done" stands as just one reminder of its importance.

A Short History of Privacy[1]

Nearly every culture has a concept of privacy. Anthropologists and legal theorists have identified expressions of a right to privacy in Sumerian, Babylonian, ancient Indian, and ancient Judeo-Christian texts (Soma, Courson, & Cadkin, 2009). Some scholars have argued that a need for privacy goes back to our animal roots, as "virtually all animals seek periods of individual seclusion or small-group intimacy" (Westin, 1967: 8), and that privacy is, in any case, necessary for intimacy (Gerstein, 1978). The English word "privacy" can be traced back to 1598 (Oxford English Dictionary, 2015), when Shakespeare spread the term through several of his plays, such as *The Merry Wives of Windsor* (Shakespeare, 1598: Act IV, Scene 5).

[1] For full histories of privacy in the United States and Europe, see, for example, Seipp, 1978; the five-volume *A History of Private Life* (Veyne, 1987); and *NOMOS* XIII, the 1971 yearbook of the American Society for Political and Legal Philosophy (Pennock, 1971).

As a legal concept, it was recognized by courts as early as 1604 in Semayne's Case, when the English Court stated "[t]hat the house of every one is to him as his… castle and fortress" (Coke, 1604). From there, the legal meaning of privacy grew to include privacy from government and non-government intrusion. As stated by Sir William Blackstone in 1769:

> Eaves-droppers, or such as listen under walls or windows or the eaves of a house, to hearken after discourse, and thereupon to frame slanderous and mischievous tales, are a common nuisance and presentable at the court-leet: or are indictable at the sessions, and punishable by fine and finding sureties for their good behaviour (Blackstone, 1769).[2]

Privileging privacy from various forms of intrusion continued in the New World, where it took the form of the Fourth Amendment to the US Constitution, guaranteeing freedom from "unreasonable searches and seizures" by the government. If the observed wanted to avoid an observer's gaze, the home could provide such shelter.

British and American efforts to even more broadly define the right to privacy, both legally and normatively, emerged from the relationship between law and culture in the late-nineteenth-century Victorian Compromise, according to Lawrence Friedman in his book *Guarding Life's Dark Secrets* (Friedman, 2007). The Victorian Compromise had, as its name suggests, two contradictory components. The law increasingly adopted rules upholding socially accepted moral values and punishing "immorality," particularly amongst the upper classes. The doctrines of seduction and breach of promise (by which women could seek retribution and recover their lost social status by bringing criminal charges against men who seduced them but reneged on their promises of marriage) protected the lady of the house in sexual matters; libel and slander laws protected an individual's reputation from publicized lies; and the introduction of obscenity law regulated public discourse. But while the law forbade and punished (criminally) these immoral

[2] For the sake of readability, the letter "s" has been substituted for the "f" used at that time.

acts when they were observed, it also appears to have recognized that lapses in morality were inevitable. A different and even contradictory strand of law—privacy law—therefore arose to shield individuals, particularly upper-class men who were "pillars of society," by constraining the observer. For instance, Friedman argues that blackmail law should be viewed as protecting elite men from threats by lower-class blackmailers when these pillars of society strayed from the demands of Victorian morality. While some viewed this as hypocrisy, Friedman argues that society at the time saw this duality as necessary. The social elite was considered necessary for social stability, yet its individual members—being only human—could not be counted upon to unfailingly avoid immoral conduct. To protect a fragile society from being disrupted, it was therefore necessary to protect the elites from damage to their reputations—at least, up to a point. Like management scholars less than a century later, the law recognized the importance of considering the perspectives of both the observer and the observed. Thus, the Victorian Compromise encouraged the creation not only of moral norms, upheld by the law, but also of "zones of privacy" within which elites could misbehave. Ironically, these "zones of privacy" included both red-light districts and one's own home (Friedman, 2007; Richards, 2009). As Friedman (2007: 65) writes:

> A visitor from another galaxy who could read the penal code of a typical American state in the middle of the nineteenth century would learn that people were not supposed to steal, murder, rape, or burn down buildings and that they were also not supposed to have sex outside of marriage.
>
> But if the visitor looked more carefully at the texts—and at the behavior of the legal system, at law in action—the visitor would get a somewhat different picture. Here the real goal of the living law was not zero tolerance at all but caution, moderation, and a screen of privacy. The careful reader of text and behavior would notice that the norms in fact tolerated certain deviations within certain limits.
>
> The law was like a man who uttered stern words with his fingers crossed behind his back.

It was as if the law were teaching those who wanted to avoid being observed how to hide. Following that inauspicious start, the "right to privacy" took a less morally compromised form—and earned a more distinguished pedigree—with Warren and Brandeis's seminal 1890 *Harvard Law Review* article, "The Right to Privacy," in which they defined that right simply and narrowly as the "right to be let alone" (Cooley, 1879; Warren & Brandeis, 1890: 193). Motivated by a fear that modern technology would enable "what is whispered in the closet [to] be proclaimed from the house-tops," in one of the most influential (and frequently cited) American law articles of all time (Shapiro & Pearse, 2012), Warren and Brandeis (1890: 195–196) described the need for a right to privacy as follows:

> Of the desirability—indeed of the necessity—of some such protection, there can, it is believed, be no doubt. The press is overstepping in every direction the obvious bounds of propriety and of decency. Gossip is no longer the resource of the idle and of the vicious, but has become a trade, which is pursued with industry as well as effrontery. To satisfy a prurient taste the details of sexual relations are spread broadcast in the columns of the daily papers. To occupy the indolent, column upon column is filled with idle gossip, which can only be procured by intrusion upon the domestic circle. The intensity and complexity of life, attendant upon advancing civilization, have rendered necessary some retreat from the world, and man, under the refining influence of culture, has become more sensitive to publicity, so that solitude and privacy have become more essential to the individual; but modern enterprise and invention have, through invasions upon his privacy, subjected him to mental pain and distress, far greater than could be inflicted by mere bodily injury. Nor is the harm wrought by such invasions confined to the suffering of those who may be the subjects of journalistic or other enterprise. In this, as in other branches of commerce, the supply creates the demand…. Triviality destroys at once robustness of thought and delicacy of feeling. No enthusiasm can flourish, no generous impulse can survive under its blighting influence.

Warren and Brandeis took this position in the context of a rapidly urbanizing society in which respite from the increasingly crowded cities was ever harder to find, the "yellow press" flourished on gossip and scandal, and, most importantly, the use of the portable camera was spreading quickly—thanks, in part, to the invention of photographic roll film—unleashing a

tsunami of photographs taken outside the controlled safety of a photo studio. While vast amounts of land had made privacy a reality for the American colonists, it was now under assault by new social conditions and new technologies. Law would become a tool for striking a better balance.

Much of the scholarly work on privacy published in the 126 years since Warren and Brandeis's *Harvard Law Review* article has focused on the legal justifications for expanding or narrowing the legal right to privacy. Solove distills the resulting definitions of privacy into six categories which "capture the recurrent ideas" in the legal discourse—approaches through which legal scholars "have chosen to theorize about privacy" (Solove, 2002: 1092):

(1) "The right to be let alone—Samuel Warren and Louis Brandeis's famous formulation for the right to privacy" (e.g., Warren & Brandeis, 1890; *Katz vs. United States*).
(2) "Limited access to the self—the ability to shield oneself from unwanted access by others" (e.g., Halliburton, 2009).
(3) "Secrecy—the concealment of certain matters from others" (e.g., Schwartz, 2009; *Whalen v. Roe*).
(4) "Control over personal information—the ability to exercise control over information about oneself" (e.g., Magid, Tatikonda, & Cochran, 2009).
(5) "Personhood—the protection of one's personality, individuality, and dignity" (e.g., Crocker, 2009; *Boy Scouts of America v. Dale*).
(6) "Intimacy—control over, or limited access to, one's intimate relationships or aspects of life" (e.g., Suk, 2009).

Solove notes that these categories are overlapping rather than mutually exclusive (Solove, 2002) and they reference different yet overlapping waves of previous legal decisions and legislation (Bajpai & Weber, 2017). This is partly due to the need in legal discourse to base the existence of a right to privacy on previous court decisions and constitutional interpretations. A comprehensive treatment of those decisions is beyond this paper's scope (see references above for background); the key point here is that definitions of privacy have so far been motivated by legal precedent rather than by value-based evaluations. That is, definitions have been created to justify the right to privacy, rather than to estimate the instrumental value of privacy. Even

Warren and Brandeis, after concisely stating that "triviality destroys at once robustness of thought and delicacy of feeling," turn quickly to legal justifications for a "right" to privacy (Warren & Brandeis, 1890: 196). As a result, just as the question of whether the net performance effect of transparency in organizations is positive or negative under certain circumstances is still "an empirical question" (Heald, 2003: 750) because research has not sufficiently addressed it, so is the question of whether the net performance effect of privacy is positive or negative under certain circumstances.

Solove, to his credit, identifies this weakness and suggests a value-based approach, in which "privacy has an instrumental value—namely, that it is valued as a means for achieving certain other ends that are valuable" (Solove, 2002: 30), just as Heald (2006: 59) suggests for transparency. Among the possibilities, Solove (2002: 30) lists fostering "self-creation, independence, autonomy, creativity, imagination, counter-culture, freedom of thought, and reputation." He thus uses privacy law as a frame to conceptualize privacy problems as "disruptions to certain practices," where "practices" (akin to the transparency practices in Figure 4) refers broadly to "activities, norms, customs, and traditions":

> [Privacy invasions] disrupt and sometimes completely annihilate certain practices. Practices can be disrupted in certain ways, such as interference with peace of mind and tranquility, invasion of solitude, breach of confidentiality, loss of control over facts about oneself, searches of one's person or property, threats to or violations of personal security, destruction of reputation, surveillance, and so on (Solove, 2002: 22).

Beyond Law: Productive Functions of Privacy

While Solove was concerned with how invasions of privacy disrupt our ability to be fully human, the connection he makes between invasion of privacy and interference with our capacities could also apply to organizations, where it would be employee productivity at risk.

In the 1960s and 1970s, during the same era in which Zajonc and others were doing work on social facilitation responses to observation, sociologists and psychologists were also addressing, although indirectly, a similar link—that between individual privacy and the well-being of society. Barry Schwartz (1968: 741) wrote an article, "The Social Psychology of Privacy," that begins with the premise: "Patterns of interaction in any social system are accompanied by counter-patterns of withdrawal, one highly institutionalized (but unexplored) mode of which is privacy." Schwartz draws here on Georg Simmel's essay, "Brücke und Tür" ["Bridge and Door"], which makes a similar point: "Usually we only perceive as bound that which we have first isolated in some way. If things are to be joined they must first be separated.… Directly as well as symbolically, bodily as well as spiritually, we are continually separating our bonds and binding our separations" (Simmel, Landmann, & Susman, 1957: 1). Simmel's view is, in turn, similar to the Durkheimian dialectic of social health: integration, or the strength of attachment people feel to society, and regulation, or the degree of external constraint imposed on people (Durkheim, 1912). Schwartz (1968) is consistent with Durkheim's view of social health through dialectical balance, but shifts the focus to the tension between privacy and transparency (see also Altman, Vinsel, & Brown, 1981). For Schwartz (1968: 742), guarantees of privacy are "rules as to who may and who may not observe or reveal information about whom," which, if accepted by all members of a social entity, constitute a "common bond providing for periodic suspensions of interaction" and, therefore, a legitimated integration of individual privacy with full participation in society. When such structural provisions for privacy are not enforced, Schwartz anticipates the result to be illegitimate hiding. He quotes Simmel (1950: 364): "[W]here privacy is prohibited, man can only imagine separateness as an act of stealth."

Within that framework, Schwartz (1968: 744) assigns three sociological functions to privacy:

- As a legitimate justification for withdrawal from peer interactions, privacy preserves horizontal/peer interactions over the long term by providing brief releases from them when they become "sufficiently intense to be irritating."
- As a scarce resource, privacy "reflects and clarifies status divisions, thus dramatizing (and thereby stabilizing) the vertical order"; that is, who can possess what kinds of privacy and how much.
- As a means of permitting individual expressions of deviance, privacy protects the social order from destabilization. The opportunity for "invisible transgressions" serves to "maintain intact those rules which would be subverted by the public disobedience that might occur in its absence" (Schwartz, 1968: 744). (In effect, this restates the Victorian Compromise: people are going to do certain things anyway, so we need a system that allows such actions without openly condoning them or allowing them to harm the social order.)

Until the mid-1970s, this line of research on privacy was quite robust, reflected in key sociological publications by authors including Georg Simmel, George Orwell (1949) (*Nineteen Eighty-Four*), Erving Goffman (1959: 123) (for example, "front and back region differentiation"), Robert Merton (1957: 343) (for example, "some measure of leeway in conforming to role expectations is presupposed in all groups"), Wilbur Moore and Melvin Tumin (1949: 792) (for example, "all social groups… require some quotient of ignorance to preserve espirit de corps"), and Barney Glaser and Anselm Strauss (1964: 670) (for example, social interaction is defined in terms of "what each interactant in a situation knows about the identity of the other and his own identity in the eyes of the other"), all of whom Schwartz (1968) draws upon. Extending the work of these sociologists, *NOMOS* XIII, the 1971 yearbook of the

American Society for Political and Legal Philosophy, was dedicated to privacy theory and the privacy construct (Pennock, 1971).

As a capstone to the work on privacy done in the 1960s and early 1970s, Irwin Altman published *The Environment and Social Behavior*, in which he dealt at length with privacy as an "interpersonal boundary-control process, which paces and regulates interaction with others" (Altman, 1975: 10). He continues: "Privacy regulation by persons and groups is somewhat like the shifting permeability of a cell membrane. Sometimes the person or group is receptive to outside inputs, and sometimes the person or group closes off contact with the outside environment" (Altman, 1975: 11). For Altman, privacy was an optimization process in which an individual's objective is to find a sweet spot between too much and too little social contact that creates a "satisfactory match of desired and achieved privacy" (Altman, 1975: 26, Figure 2-3).

Following Westin's (1967: 13) earlier conclusion that "anthropological studies have shown that the individual in virtually every society engages in a continuing personal process by which he seeks privacy at some times and disclosure or companionship at others," Altman (1975: 12–13) finds privacy regulation to be a "cultural universal":

> Most societies have evolved means for allowing persons and groups to regulate social interaction. While the mechanisms may differ across societies, there appears to be a "cultural universal" that people in groups can shut off and open themselves to contact with others at different times. A viable society probably cannot exist if many members are totally and permanently out of contact with others. But it is also probable that few societies exist where people have no barriers against others. What appears to be different among societies is not the absence of interpersonal-boundary processes but the specific behavioral mechanisms by which some degree of control is achieved.

Altman supports his claim of a "cultural universal" through archival case studies:

- Amongst the Taureg people of Northern Africa, male members wear a veil as an important source of privacy, masking facial expressions, identity, and specifically the mouth. The veil is constantly adjusted to reflect status and approachability in a given social situation (Murphy, 1964; Westin, 1967).
- Villages of the Mehinacu people of Brazil are designed so that everything can be seen and heard by all, and yet the people suppress emotional expression, speak softly, and maintain a maze of hidden paths to secret clearings in the forest where hiding is possible. The men also engage in various rituals which, over a lifetime, can amount to about eight years of isolation (Roberts & Gregor, 1971).
- In Javanese society in Indonesia, there are no physical boundaries, but people "shut [other] people out with a wall of etiquette…, with emotional restraint, and with a general lack of candor in both speech and behavior" (Westin, 1967: 16–17, quoting Geertz, 1959).
- In contrast, homes of the Bali people in Indonesia are surrounded by high walls, creating a physical fortress which removes the need for a psychological one, although "when one steps through the doorway to the street, … he becomes more or less like the Javanese" (Altman, 1975: 16; Westin, 1967: 17). The location of a lot is carefully chosen to deny visual access to outsiders, while shifting room and wall arrangements achieve situational privacy characteristic of the Japanese home (Canter & Canter, 1971).

Altman also mentions the behavioral techniques used by residents of an Israeli kibbutz to separate themselves from others (Davis & Olesen, 1971); vine-hung gardens in ancient Egypt, porticoes in Greece, various enclosures in Rome, and country homes guarded by stone walls and

parks in Britain (Altman, 1975); and even scientifically grounded connections between the privacy of animal nests and the therapeutic needs of mental-health patients (Osmond, 1957). In perhaps the best summary of this point, Altman (1975: 16) quotes from Silber (1971: 228):

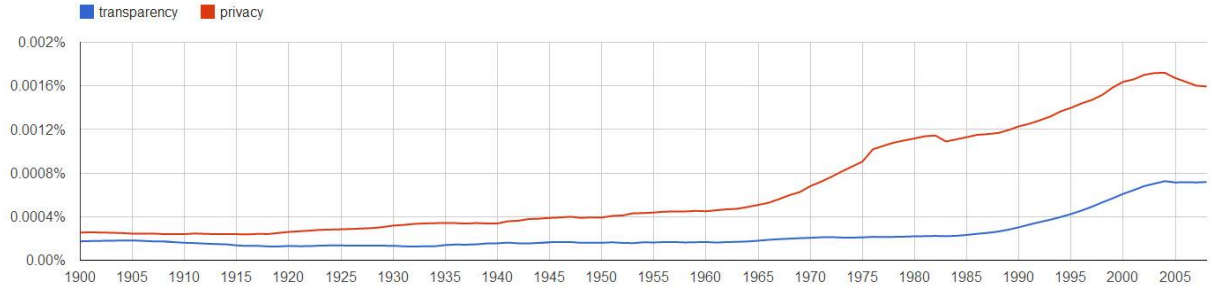
> The strip teaser would seem to forfeit, by virtue of her professional calling, the privacy of her body. She has, it might seem, no private parts, since she has contracted for their display. But in the blank, dead expression on the face of the dancer one sees the closed door, the wall, behind which she hides an intense, if limited, privacy. She wears her fig leaf on her face. With eyes that disclose nothing—least of all an interest in what she is doing or in those who are watching her—she preserves some part of her individuality from public gaze. Some dancers exhibit such powers of withdrawal that they succeed in totally estranging themselves from the audience. Because she does not value the intimate disclosure of her body, because she makes her body available with such utter indifference, that rare dancer may even convey to a stupid and drunken audience the stark realization that in seeing all they have seen nothing. What is offered publicly to an audience becomes private once again.

While stripping may seem to have little in common with organizational behavior, recent book titles including *The Naked Leader* (Taylor, 2002), *The Naked Employee* (Lane, 2003), and *The Naked Organization* (Tapscott & Ticoll, 2003) suggest that the analogy may be quite apt.

Unfortunately, after the late 1970s, work on privacy splintered into the various siloes of applied science (Waldo, Lin, & Millett, 2007). Scholars of information technology, for example, have focused on the impact of new technology on individual privacy (Smith, Dinev, & Xu, 2011: 991, Table 1) while lawyers (in both academic institutions and advocacy groups) have considered how privacy law can protect individual rights. Business academics have increasingly addressed the use of personal information in business (typically for marketing or e-commerce), while communication scholars have worried about the panoptic implications for the political economy of such stockpiles of consumer information (e.g., Gandy, 1993). Architects have tried to understand the relationship between visibility and privacy in open-office space (Archea, 1977;

Boje, 1971; Brennan, Chugh, & Kline, 2002; Reichel & John, 1977; Sundstrom, Burt, & Kamp, 1980; Sundstrom & Sundstrom, 1986). Rich discussions of the value of boundaries in both the sociological and networks literatures (for reviews, see, respectively, Lamont & Molnár, 2002a and Lazer & Friedman, 2007), without specifically mentioning privacy, suggest that productive individual and group identities require four components, the first of which is "a boundary separating me from you or us from them" (Tilly, 2003). The few economists who have examined privacy have done so from the standpoints of marketable rights of privacy and asymmetric information due to privacy (Waldo et al., 2007). Creativity scholars have found that external observation and evaluation hurts creativity (Amabile, 1979). Similarly, the observer's gaze is a hindrance to learning, but might enhance performance under certain circumstances (Higgins, 1995, 2001). Each of these works has had an impact on its own field, but the umbrella concept of privacy seems to have folded up without much notice. Thus, while the word "privacy" has become more prominent in print—in tandem with "transparency" but with even greater magnitude (see Figure 6)—its use as a scholarly concept, unlike that of transparency, has actually narrowed.

Figure 6: Privacy and Transparency Appearances in Text



Source: Google Books Ngram Viewer (http://books.google.com/ngrams/)

Why has privacy had so little impact on management and organizations scholarship while transparency has had so much? In part, the answer is pragmatic: the law does not apply. Water-cooler mythology notwithstanding, many legal privacy protections are not applicable to the workplace. In the United States, for example, all of the Constitutional privacy protections apply only in the case of "state action"; that is, they apply in the workplace only if the employer is the government (Wiborn, 1998). In fact, most employers regularly monitor employee behavior in the workplace using various forms of technology (Levinson, 2009) and courts have upheld their right to do so (Finkin, 2003). Indeed, many organizations believe that not doing so may expose them to liability for defamation, libel, sexual harassment, discrimination, and breaches of confidentiality (Smith-Butler, 2009) that involve improper use of employer-provided communication tools. There have been attempts to legislate wider workplace privacy rights, but so far, they have failed (Levinson, 2009; Smith-Butler, 2009). In practice, managers who set clear expectations by disclosing all the types of surveillance in use can legally monitor employees, at least to the limit of what is practical (Alder, Noel, & Ambrose, 2006; Mujtaba, 2003; Smith-Butler, 2009). And as described in the "Observation as a Technology" section above, those limits have expanded substantially, with no end in sight. As Rosabeth Moss Kanter (2009) observed, "technology has posed new challenges, as it always does, but many of them involve the Watchbirds who can watch us."

LINKING TRANSPARENCY AND PRIVACY IN MANAGEMENT SCHOLARSHIP: SOME ASSEMBLY REQUIRED

One clear lesson from my reviews of the transparency and privacy literatures is that it is increasingly important that scholars link transparency and privacy, as they play an increasingly central *joint* role in the management of learning and control in complex organizations. A failure

to do so risks generating theories which may fail—as they have in the past—to predict real outcomes in an increasingly transparent world.

Consider, for example, how the transparency dialogue to date has been shaped by its singular focus on how the observer benefits from transparency. Depending on the era, the field has focused on either the control or the learning benefits of transparency, reflecting the "tendency for innovative surges of managerial theorizing to alternate between rational and normative rhetorics of control" (Barley & Kunda, 1992). Put simply, the field has alternatingly encouraged managers either to emphasize control and discipline or to emphasize flexible learning and innovation—a yin-and-yang oscillation between Theory X and Theory Y (McGregor, 1960). While that long-term trend prompted at least one scholar to suggest, over 20 years ago, that the next phase would turn again toward rational control ideology (Warner, 1994), a single construct—transparency—appears to have captured the middle ground by seemingly supporting both learning and control (as shown in Figure 1). To some scholars, transparency is thus the final formulation—the "end of history" (Fukuyama, 2006).

But is it? In real organizations, does transparency bridge control and learning, such that tradeoffs between them (Sitkin et al., 1994) are no longer necessary? Have we reached a state of grace in which more control is more learning and flexibility? Have we achieved Senge's (1990) vision of control without controlling, which Sewell (1998) reframed as "how do you achieve control without appearing to control?" Sewell answered his own question, drawing on Poster (1990), by observing that the Marxist "mode of production" is being supplemented—or supplanted—by a "mode of information" in which "new technology has enabled the erection of a surveillance superstructure throughout society that unobtrusively influences almost all aspects of daily life, especially work life" (Sewell, 1998: 403). In short: transparency. But transparency, at

least to these authors, was not a means for balancing learning and control. Rather, they observed that "today's 'circuits of communication' and the databases they generate constitute a Superpanopticon, a system of surveillance without walls, windows, towers or guards" (Poster, 1990: 93), increasing compliance through a form of self-discipline akin to the results of Foucault's Panopticon (Caluya, 2010; Foucault, 1977). In that sense, the ascendance of organizational transparency has not broken the tradeoff between learning and control but rather may have fueled the predicted reemergence of rational control ideology over the past two decades. Lyon, Haggerty, and Ball (2012: 2) note that "in many workplaces employee performance is now scrutinized at a level of detail that would delight the early advocates of scientific management." Lohr (2012) calls big data the "descendent" of Taylor's scientific management.

Indeed, there is evidence that transparency, particularly digital transparency, is displacing bureaucracy as the principal mode of workplace control (Lyon, 1993; Poster, 1990; Sewell, 1998) and, to some extent, as an important mode of overall social control (e.g., Power, 1997: 142–147, which describes the emergence of an "audit society"). Sewell (1998) and Ball et al. (2012) review the history of scholarship on transparency as a postbureaucratic form of control, covering both scholarly predictions (e.g., Edwards, 1979; Ouchi, 1977; Rushing, 1966) and detailed field studies (e.g., Ball, 2010; Carayon, 1993; Garson, 1988; Kallman, 1993; Sewell et al., 2012; Zuboff, 1988). They conclude that "this form of disciplinary power is *productive*, in that it is aimed at prohibiting undesirable behaviors *and* promoting desirable behaviors" (Sewell & Barker, 2006: 935). But, like Figure 1, which served as a starting point for this article, their conclusion relies on an assumption about human behavior; namely, that being observed does not

trigger responses which neutralize—or reverse—the positive effects of observability. That assumption does not reflect reality.

The centuries of privacy research summarized earlier in this article demonstrate that people have a preference for privacy and intentionally—even habitually—change their behavior when observed. It is that phenomenon which fascinated Foucault (1977) with respect to the Panopticon. Occupying prison cells in a circle around a guard post, all of the prisoners in Bentham's Panopticon would be silhouetted against light coming into the cells from the windows outside the circle, making their movements visible to a single guard at the center. Whereas Bentham focused on the watcher "seeing without being seen" (Bentham, 1995: 43), Foucault focused on the watched; for him, the prisoners, not the tower, were at the center of the Panopticon (Elmer, 2012). As he emphasized, the Panopticon's system of control works even if no one is in the guardhouse: being seeable, not necessarily being seen, would be enough to achieve social control. More generally, Foucault (1977) concluded famously that "awareness of being visible makes people the agents of their own subjection."

And yet ironically, in prisons, which so interested Foucault, being "seeable" does not always mean being seen accurately; that is, even a high level of observability does not guarantee transparency (Schnackenberg & Tomlinson, 2014). High observability can instead generate more complex and harder-to-decipher communication. At the famous Number Four prison in South Africa, where both Nelson Mandela and Mahatma Gandhi were held prisoner along with thousands of others in overcrowded conditions offering no privacy at all, one of the world's most complex number-based codes was developed among the inmates, as one can learn from the exhibits at the museum now on the prison site. In Russian prisons, tattoos often served as records of gang membership and personal history and were so highly coded that few were able to decode

them all (Lambert, 2003). Where there were no shadows in which to hide, prisoners found a way to hide information in plain sight. Behavior can change under a spotlight, and not necessarily in observable—or desirable—ways.

This effect is hardly limited to prisons. In civic life, full transparency "often leads in practice to politicians, bureaucrats and service professionals putting all their efforts into blame avoidance rather than the taking of properly calculated risks" (Hood, 2010: 993). In a recent ethnography of increased technological monitoring of truckers and their compliance with limits on work hours, Levy (2015) reports that "paper logbooks [of trucker driving time] are… routinely falsified, so much so that they are often dismissively referred to as "coloring books" or "swindle sheets"; in one survey, only 16 percent of drivers reported that logbooks provided accurate depictions of drivers' activities (Belman and Monaco, 2001)."

The logic is simple: ceteris paribus, transparency reveals anomalies; this is good for both learning and control. So far, so good. But humans may adapt to transparency by changing their behavior to conceal those anomalies, either by cloaking them with hiding behavior or by flooding the observer with so much data that the anomalies, although revealed, are almost impossible to detect. There is an "innate protective instinct" triggered by the knowledge that actions will be observable and public (Detert & Edmondson, 2007: 1). It produces a desire to impose boundaries on observation. Social structure therefore operates somewhat like the legal structures described previously. In a world dominated by transparency, chameleons become even better at avoiding notice.

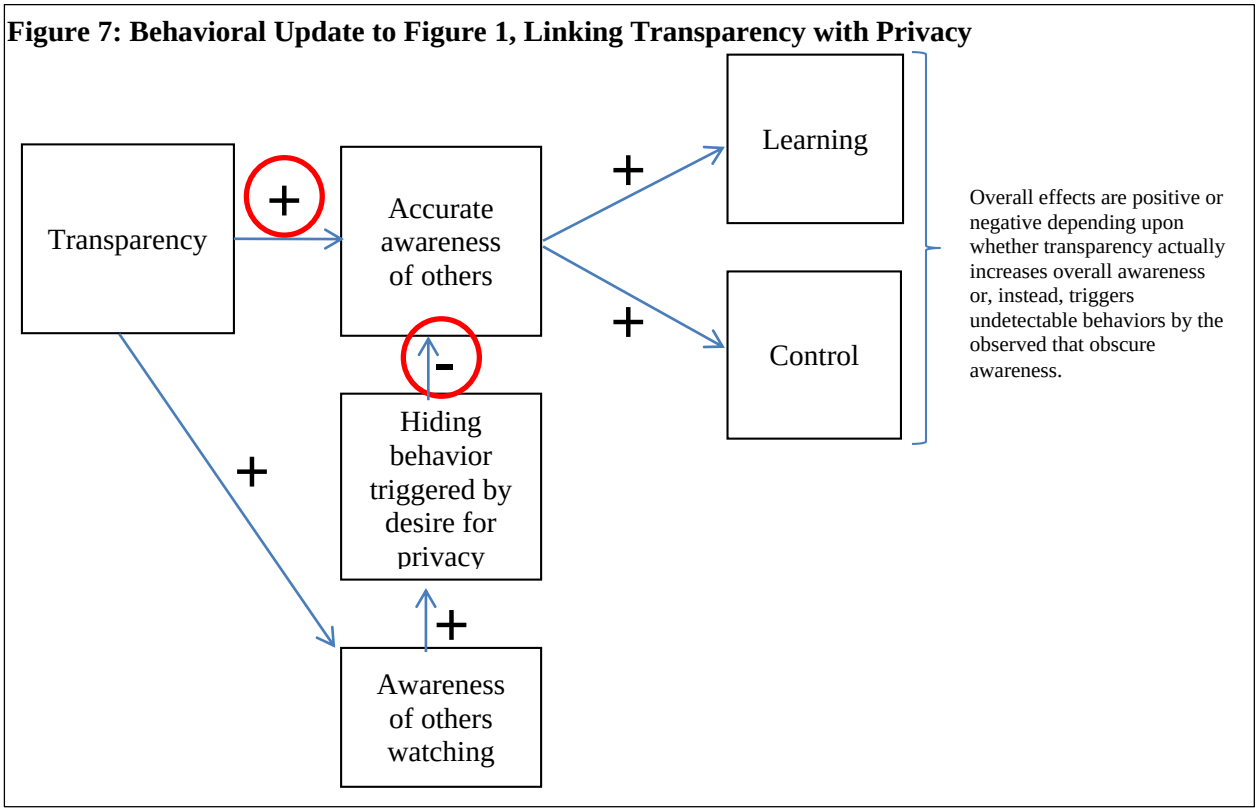
A More Accurate Model

With our literature reviews as background, how do we more closely link transparency (the perspective of the observer) with privacy (the perspective of the observed)? How do we develop theories that incorporate both the benefits of transparency and the risks of privacy shown in Figure 2?

A first step is to revisit and update the model of transparency and performance in Figure 1. Nothing in the summarized literature undermines the right-hand side of the model; indeed, most of the literature either demonstrates or assumes that an accurate awareness of others increases both learning and control. That core relationship remains intact. But the combination of the transparency and privacy literatures does call into question the relationship between "transparency" as it has been defined and an accurate awareness of others. While transparency can improve our accurate awareness of others, that relationship is moderated—and can even be turned negative—by the thirst of the observed for privacy. Indeed, transparency creates a two-sided awareness: the observer is more aware of the observed, but the observed is more aware of the observer. My review of the privacy literature suggests that throughout history, increased awareness of being observed triggers an increased desire for privacy and, with it, hiding behavior to counteract the feeling of overexposure. The literature also suggests that such hiding behavior tends to work. When it comes to a battle between transparency and hiding, human ingenuity tends to defeat even the best system design. The result: increased transparency can actually decrease the observer's accurate awareness of the observed, due to the latter's hiding behaviors, and thus result not in more learning and control for the observer, but less. In short, transparency creates a perception of increased awareness and therefore of learning and control for the observer, but that perception remains a myth. With this in mind, Figure 7 provides an updated version of Figure 1.

Thus, the overall effect of transparency on learning and control—and therefore on performance—rests on the balance between the observer's increased awareness of the observed and increased hiding behavior due to an increased awareness of the observer on the part of the observed. Which way the scale tips is almost certainly a matter of contingency-based relationships. That is, privacy all by itself cannot possibly be good for either learning or control: it hampers sharing and it hampers disciplined management. If privacy is beneficial, it will be so

Figure 7: Behavioral Update to Figure 1, Linking Transparency with Privacy



because of the nature and degree of the transparency with which it coexists.

This is why the isolation of the privacy literature from the transparency literature and the fragmentation of each literature into narrow inquiries is a weakness—and why Figure 7 opens up so many potentially valuable research questions. Table 3 takes a first step towards that integration of the observer and observed perspectives across the four subdomains of transparency

introduced at the beginning of this review: transparency as monitoring, process visibility, surveillance, and disclosure. But much work remains to be done.

---------- INSERT TABLE 3 ABOUT HERE ----------

Whether we want to know how to structure businesses most effectively or whether we want to aim for a General Theory of Human Behavior, we need to know much more than we do about how privacy and transparency *jointly* affect human behavior. As with many of our dominant management theories at various times, theory on the role of observation in management has been held back due to a pervasive agentic bias in the management and organizations literature, privileging the observer over the observed and relegating the perspective of the observed to other literatures. The most promising future research questions will involve not the individual effects of transparency and privacy, but the interaction effects between them. Only such studies can capture the joint optimization of behavior on the part of both the observer and the observed in order to improve organizational performance. Otherwise, both management scholarship and management practice may remain in a suboptimal battle between the power of technology to reveal and the power of human ingenuity to conceal.

MOVING THE FIELD FORWARD

The holistic view of transparency and privacy presented in Figure 7 suggests a number of promising areas for future research to make a contribution. Taking stock of the evolution of observation into transparency in management (Table 2) and of the multiple definitions and two-sided (observer/observed) nature of transparency (Table 3), it seems fair to say that there is much opportunity for impact if management scholars can bring together the perspectives of the observer and the observed, as we have done in other literatures, to illuminate the transformation

being wrought by workplace transparency. Below I offer nine particularly promising themes for future research, which are summarized in Table 4.

---------- INSERT TABLE 4 ABOUT HERE ----------

The role of artificial intelligence (machine learning) as an observer

Artificial intelligence (AI), or machine learning, can increasingly capture and filter a flood of information, tapping into individuals' communication and email apps, calendars, social media accounts, Web browsers, news services, enterprise workflow apps, systems of record, monitoring devices, wearable sensors, video camera feeds, and so on. While we humans can be overloaded by a deluge of data, AI systems become more intelligent the more information they get. With sufficient access, Google can use your past location and all calendar data to predict your next commute and help you avoid traffic jams on a trip you haven't even told it you will be making. Siri can answer your questions with much greater ease and accuracy because she knows everything you have ever done with—or near—your iPhone (and its apps, microphone, accelerometer, GPS sensor, Bluetooth, WiFi, and so on). Cortana can tell you to "ask me anything" because, chances are, the answer lies somewhere in the gigabytes of information flowing through—or stored in—your computer.

AI's nearly limitless capacity to handle data creates two powerful yet conflicting responses. On the one hand, there is hope that machine learning can help us manage an unmanageable flow of communication—whether one is an academic using it for research or an employee using it to increase productivity. On the other, the question inevitably arises: who exactly is going to have access and how are they going to use it? Put another way, will AI help us learn more or subject us to more control?

In most of the discussion about AI, the observers have marginalized the perspective of the observed, assuming that the observed will be convinced—through free apps or the desire to stay employed—to consent to being observed by computers. This assumption has largely been borne out, yet we saw in the previous review that so much observation would trigger hiding behavior were the observer a person—for example, the boss or a colleague. Do we have a different standard for computer observers, or is there some other reason for the discrepancy?

The US Federal Bureau of Investigation's request that Apple grant it access to the iPhone of the terrorist shooter in San Bernardino in 2016 (Decker, Donahue, Wilkison, & Chiu, 2016; Nakashima, 2016) highlights the value, both instrumental and intrinsic, of further research on that question. Apple's denial was viewed by many as strategic: if the FBI were granted access to an iPhone, many customers and potential customers would feel less comfortable using an iPhone. But in fact, every click on an iPhone is already being observed—not by people, but by AI algorithms. How we think about valuing our privacy with respect to machines versus other people would seem to be a rich line of inquiry.

Studying the perceived value of transparency and privacy

The price of data (Gkatzelis, Aperjis, & Huberman, 2015) is on the rise. In 2014, Facebook paid $42 per address book for WhatsApp; when Microsoft bought LinkedIn in 2016 to acquire the data of its 433 million users, it paid roughly $60 per profile. Yet most of us, even if the offer were made, would not sell our private information for even $60. So why do so many of us make it possible for WhatsApp or LinkedIn to do so?

That inconsistency has frequently been referred to as the "privacy paradox"—consumers express deep concerns about privacy but reveal personal information online for relatively small

rewards (Barnes, 2006; John, 2015; Kokolakis, 2015; Norberg, Horne, & Horne, 2007; Taddicken, 2014). As early as 2008, a *Consumer Reports* poll found that "72 percent are concerned that their online behaviors were being tracked and profiled by companies," making privacy one of the largest consumer concerns (Consumers-Union, 2008). Yet also in 2008, Gomez, Pinnick, and Soltani (2009) found that most of the top 50 most-visited websites collect personal information, using it for customized advertising and sharing it with hundreds of affiliates, and that every site had a "Web bug" (an object embedded in a Web page to track information about the individual accessing it) placed there by some other company (for example, Google had one on nearly every site).[3] In most cases, collectors of information—such as websites, apps, devices, and desktop applications—are transparent in their information privacy policies, but the same individuals who claim to value their privacy blindly accept the terms and conditions (Capistrano & Chen, 2015) and willingly disclose their information. Acquisti and Grossklags (2005) found that 89.2 percent of their survey respondents identified themselves as moderately or very concerned about privacy, but 28.6 percent admitted to revealing their phone numbers for discounts or better services and 21.8 percent admitted to doing the same with their social security number. Similarly, Beresford, Kübler, and Preibusch (2012) found that although 75 percent of their subjects indicated a strong interest in data protection, when they purchased a DVD from one of two competing online stores, they were willing to provide income and date-of-birth information at one store for a mere one-euro discount and, even when prices at the two stores were the identical, seemed to give virtually no premium to the privacy-friendly vendor.

[3] In a more recent study, researchers in Germany found that 99 percent of the top 200 news sites contain at least one tracker and at least 50 percent of those sites contain at least 11. In a large-scale field study of 21 million Web pages (five million unique URLs spanning 350,000 unique domains) visited by 200,000 different German users for a week, 95 percent of page loads provided the user's information to a likely tracker and 24 percent to at least 10 likely trackers (Yu, Macbeth, Modi, & Pujol, 2016).

People simply do not "live up to their self-reported privacy preferences" (Spiekermann, Grossklags, & Berendt, 2001: 38).

That chasm between self-declared and revealed information privacy preferences begs the question: how do individuals actually value their privacy? A number of recent empirical studies conducted by information privacy scholars have examined that in a variety of contexts (Acquisti, John, & Loewenstein, 2013), from the disclosure of personal information online (Hann, Hui, Lee, & Png, 2007) to location data (Cvrcek, Kumpost, Matyas, & Danezis, 2006) and beyond (for thorough reviews of information privacy research, see Bélanger & Crossler, 2011; Cvrcek et al., 2006; Hong & Thong, 2013; Li, 2012; Pavlou, 2011; and Smith et al., 2011). Yet there is still substantial work to be done. Acquisti, Brandimarte, and Loewenstein (2015), in what will likely become a foundational review article on privacy and human behavior in the twenty-first century, begin by stating that "if this is the age of information, then privacy is the issue of our times." They conclude that a combination of (a) uncertainty about whether, and to what degree, one should be concerned about privacy, (b) the significant context dependence of individual privacy preferences, ranging from extreme concern to apathy depending on the situation, and (c) the malleability of privacy preferences under minimal influence have, together, made information privacy an area in need of deeper study.

While important research has already been conducted—for example, Leslie John's work bringing behavioral economics and decision research to bear on questions of the perceived value of privacy (Acquisti et al., 2013; John, Barasz, & Norton, 2016; John, 2015)—a great deal could be gained by connecting ongoing work in information privacy to research on transparency and observation. Perhaps the value of transparency, too, is uncertain, context-dependent, and malleable. After all, Levy (2014) finds that not just work relationships but also "intimate

relationships are increasingly governed by monitoring and quantification," with her review citing literally dozens of "apps" and other technologies by which millions of individuals are opting in for observation of "some of our most intimate relationships and behaviors—those relating to love, romance, and sexual activity." The next step in information privacy research should ask questions that tie together an interdisciplinary view not just of information privacy, but also of transparency, to make progress in both.

Hierarchical versus peer transparency as a form of control

As originally introduced in Figure 2, previous scales for transparency have naturally split between "upward" and "downward" transparency, suggesting that hierarchy plays a role in the behavioral consequences of transparency and, therefore, in the desire for privacy. The importance of hierarchy in moderating the relationship between transparency and behavior is unsurprising given that hierarchy is one of the most common forms of control, which itself is one of the primary outcomes of transparency. Gouldner (1954), for example, concluded in his classic study of a gypsum plant that the amount of "close supervision" by managers determined, in part, the form of bureaucracy: representative bureaucracy (serving the interests of both managers and workers) was hard, if not impossible, to achieve in an environment with too much transparency; punishment-centered bureaucracy (serving the interests of managers over workers) or mock bureaucracy (rules ignored by both parties) was more likely to emerge in that case. Sewell (1998) theorized a hybrid or "chimerical" mode of workplace control in which transparency is both hierarchical and peer-based. More work should be done on the relationship between hierarchy and transparency to see if transparency really is the newest form of coercive control.

The evolution of theory on transparency (Table 2) and privacy, however, also reflects a trend from hierarchical to peer-based observation, raising the question of whether such a movement makes for any difference in the behavioral responses and transparency/privacy concerns of the observed. People commonly present themselves differently in the presence of different others, and studies of people's willingness to make themselves and their activities transparent to different relational types of others could add substantial value to both scholarship and practice. For example, Mollick and Rothbard's (2014) study of leaderboards and Bernstein and Li's (2016) study of transparent performance data yields interesting variation, much as different people post different kinds of information on Facebook (Krasnova, Spiekermann, Koroleva, & Hildebrand, 2010) and other social media sites.

Investigating the culture of transparency and the role of trust

While more transparency makes it more difficult—or more important—to hide, it may also be that culture, rather than monitoring, process visibility, surveillance, or disclosure, is what ultimately creates the conditions for the observed to be transparent to the observer (Bennis, Goleman, & O'Toole, 2008). In other words, the way for the observers to mitigate hiding behaviors is not by trying to "manage" privacy, but by building what Toyota calls a "culture of transparency" (Spear & Bowen, 1999).

One way might be through interventions by the observer designed to engender trust—a psychological state in which one accepts vulnerability to or reliance on another on the basis of confident, positive expectations about the other's future actions, intentions, or behavior (Rousseau, Sitkin, Burt, & Camerer, 1998). The importance of trust (De Jong & Elfring, 2010; Dirks & Ferrin, 2001; Kramer, 1999; McEvily, Perrone, & Zaheer, 2003; Pirson & Malhotra,

2011) for organizational performance is well established. It improves organizational performance because members who trust each other can interact "as if their uncertainty and vulnerability were favorably resolved" (De Jong & Elfring, 2010: 536) and they are therefore more prone to productive interactions (Jones & George, 1998; Mayer, Davis, & Schoorman, 1995; Spreitzer, Noble, Mishra, & Cooke, 1999). A review of 40 years of empirical studies supports that conclusion, although not without some inconsistencies, and suggests that trust may also offer indirect productivity benefits (Dirks & Ferrin, 2001).

One would expect trust to have something to do with the balance between transparency and privacy, and so it does, but the relationship is complicated. As observers, the more we see, the more easily we can trust. But as the observed, the more that is seen of us, the less we feel trusted. When others tell us we need to be observed to be trusted, that doesn't feel like trust at all. But if someone tells us they don't want to be observed, we tend not to trust them (John et al., 2016). Nonetheless, while "trust me" and "show me" can function as substitutes—and sometimes even as opposites—both are celebrated in management theory as good practice: trust is an "important lubricant of a social system" (Arrow, quoted in Bradach & Eccles, 1989: 104), while transparency has become management gospel. Declining levels of either would appear to undermine performance, and yet they clearly struggle with one another.

Returning to Gouldner's (1954: 161) research at the gypsum plant, he observed:

> [C]lose supervision enmeshed management in a vicious cycle: the supervisor perceived the worker as unmotivated; he then carefully watched and directed him; this aroused the worker's ire and accentuated his apathy, and now the supervisor was back to where he began. Close supervision did not solve his problem. In fact, it might make the worker's performance, in the super's absence, even less reliable than it had been.

Other scholars have noted that similar downward spirals can be triggered by an organization's reliance on third-party observers. In the UK, for example, the introduction of more severe

transparency requirements appears to have "coincided with reducing rather than increasing levels of public trust in the very institutions and office-holders subjected to those requirements" (O'Neill, 2006: 76). Increased transparency led to decreased trust, which conceivably led to greater hiding behavior and less realized transparency. Conversely, Simon (1991) observed that what is surprising about organizations, in the absence of constant supervision, is not the level of opportunistic shirking but rather the level of voluntary effort.

Research on transparency as monitoring similarly suggests that transparency can undermine solidarity and create an atmosphere of mistrust (Langfred, 2004; Manning, 1997), inhibit the development of trust (Mayer et al., 1995), or even erode trust which existed previously (Strickland, 1958). On the one hand, the monitoring literature has framed transparency and trust as alternative and incompatible mechanisms of control (De Jong & Dirks, 2012; Luhmann, 1979; Piccoli & Ives, 2003). On the other hand, it is rather hard to imagine a well-performing environment either of total transparency devoid of trust, or of total trust devoid of transparency (Webber, 2008). As with another pair of seeming opposites—collaboration and control (Sundaramurthy & Lewis, 2003: 404, Figure 3)—it would seem that an organization, whether at the peer, team, or organizational level, must promote both transparency and trust (De Jong & Elfring, 2010; Loughry & Tosi, 2008). While trust might yield the well-documented motivational benefits of being trusted and not observed, transparency might fend off the demotivating effects of feeling that others may be getting away with something. Thus, *reinforcing* cycles of transparency and trust, properly designed, would appear to provide the elegant balance suggested by the popular dictum, "trust but verify."

If we want to increase trust and build a culture of balanced transparency that benefits both the observer and the observed, we need to "avoid deception rather than secrecy" (O'Neill, 2002: 72).

In some cases, increasing transparency may reduce deception and therefore increase trust; in other cases, privacy may do a better job of that. In organizations, things that are "trusted" versus "verified" may differ in systematic, predictable ways—by type of issue, by behaviors versus outcomes, or across other potential dimensions. We obviously have to verify some things through observation and trust other things without it; management scholarship increasingly has the potential to unravel how healthy organizations draw those boundaries, recognizing that answers may differ across contexts, generations, and even individual types. Without such scientific investigation, we run the risk of entering a vicious cycle in which managers' risk-aversion and feelings of distrust fuel consistently increasing levels of observation over time (Alge, Ballinger, & Green, 2004), which undermines trust and moves employees to engage in untrustworthy behaviors. That cycle is not purely theoretical; for example, it seems to describe perfectly the series of events (Gates, Ewing, Russell, & Watkins, 2016; Ivenko, 2016) and unique corporate culture (Ewing and Bowley, 2015) that fueled the 2015 Volkswagen diesel scandal.

Research in this area could take a number of forms. One could directly measure trust as a function of enforced transparency (downward or upward) and/or privacy (e.g., Liao, Liu, & Chen, 2011). An alternative and particularly interesting approach might be to combine research on employee voice (Burris, 2012; Detert & Burris, 2007; Detert & Edmondson, 2007, 2011) with research on transparency to see how speaking up (discretionary, upward transparency) increases or decreases with enforced transparency (either upward or downward). Any relationship, positive or negative, between enforced transparency and voice could help untangle this complex relationship between trust and transparency and, therefore, improve productivity.

Such future research on transparency and trust could also take into account ties to the severity of consequences of transparently failing to meet expectations at work. The previous review of transparency and privacy suggests that combining transparency with weak consequences for failures is unlikely to produce a materially different effect on performance than combining transparency with strong consequences for failure (e.g., strict individual liability). Yet for trust, there is a difference: the former (weak consequences) is likely to breed trust, while the latter (strong consequences) is likely to breed distrust. Distrust of employees has been found to cause managers to implement even stricter forms of accountability that involve zero tolerance for failure (Tetlock, Vieider, Patil, & Grant, 2013), thus reinforcing the vicious cycle. If research were able to clarify these links between transparency, trust, consequences of failure, and performance, it could have a substantial impact both on scholarship and what could be naturally occurring yet unproductive trends in practice.

Using levels of analysis to find productive strategies for combining transparency and privacy

The evolution of theory on observation and transparency has trended towards a focus on individuals (Table 2), fueled by technologies which make individual-level transparency possible. This is particularly true in the privacy literature, most especially the information privacy literature, where the focus has been on individuals or societies of individuals (Smith et al., 2011). It might, therefore, be productive to revisit transparency and privacy at different levels of analysis within organizations—that is, in different zones of privacy (Bernstein, 2014).

What might that mean? For the sake of explanation, I will consider what scholars of transparency/privacy might learn from a seemingly different, yet quite related, body of research

that has found it valuable to use levels of analysis as a key variable; namely, research on structural ambidexterity and the tradeoff between exploration and exploitation.

Duncan defined organizational ambidexterity as the capacity to simultaneously exploit existing competencies and explore new ones (Duncan, 1976; Tushman & O'Reilly, 1996). From this arose an umbrella construct for organizations capable of managing seemingly irresolvable tradeoffs: in organizational learning, exploration versus exploitation (March, 1991); in quality, control versus learning, as addressed in Total Quality Management (Hackman & Wageman, 1995; Sitkin et al., 1994). In organizational leadership, there was discussion of "integrative thinking" with an "opposable mind": the capacity to hold "two opposing ideas in mind at the same time and still retain the ability to function" (Fitzgerald, 1931; Martin, 2009).

But again, we must ask if theorizing something makes it so. Can organizations truly be ambidextrous? Despite tensions in organizational priorities which nudge organizations towards the variance-reducing side of the duality (Benner & Tushman, 2002; Levinthal & March, 1993; March, 1991), evidence from the past four decades strongly suggests that organizations can indeed achieve ambidexterity (see, for example, O'Reilly & Tushman, 2004; Raisch, Birkinshaw, Probst, & Tushman, 2009; and Tushman & O'Reilly, 1996). *How* they do it has been less clear, despite significant theoretical progress. In Raisch and Birkinshaw's (2008) comprehensive review of the organizational ambidexterity literature, they divide the range of antecedents into three categories: structural, contextual, and leadership. The heart of the structural question is boundaries: how are structures supporting exploration and exploitation bounded to keep one from dominating the other, while permitting enough interaction to allow integration. Duncan originally proposed separate units to pursue exploration and exploitation (Duncan, 1976), each unit specifically designed to do its job (Lawrence & Lorsch, 1967).

Exploitation units would, like large, mature organizations, be decentralized and tightly coupled, focused on process management and incremental improvement for today. Exploration units would, like startups, be small and loosely coupled, focused on product innovation and invention for tomorrow. But what "spatial separation" is required to protect the exploitation units from crowding out the exploration units (Raisch & Birkinshaw, 2008)? This, I believe, brings us back to our own topic. From the historical review above, we can surmise that a consistently important form of "spatial separation" would be privacy.

That connection between "spatial separation" and privacy brings theory on privacy in contact with a number of important findings in the management literature. The modular design of an organization (for example, division between clicks and bricks in retail), a team (for example, account management versus business development), or even a product (for example, different teams for different brands) has been found to determine not just which information and which design rules are visible to whom, but also the success and longevity of the overall system (Baldwin & Clark, 2000; Wheelwright & Clark, 1992). Autonomous business units have been suggested as part of the solution to the innovator's dilemma (Christensen & Raynor, 2003) *because* they are autonomous from the established business model and therefore not subject to its resource-, process-, and priority-based oversight. Boundaries (or spatial separation) allow learning to be "local and variegated" (Edmondson, 2002) by bounding and embedding knowledge within a function, unit, or team at least for a while (Carlile, 2002). For example, in their study of the Toyota Production System, Adler, Goldoftas, and Levine (1999: 43) conclude that "novel forms of organizational partitioning enabled differentiated subunits to work in parallel on routine and non-routine tasks." Such structural ambidexterity is, as the term suggests,

enabled by structural boundaries (Gibson & Birkinshaw, 2004; O'Reilly & Tushman, 2008) such as those created through privacy boundaries.

While arguments for the performance benefits of privacy bear some similarity to the above literatures on modular design, autonomous units, and ambidexterity, as well as to general theory on autonomy (Hackman & Oldham, 1975), a key difference remains. Compared with the interventions proposed by those literatures, implementing privacy can be far less troublesome. Boundaries to visibility are low-cost, flexible, and often permeable. If privacy indeed can have a similar impact on power dynamics and attention—and thus on performance—but without the substantial organizational changes required by the other design interventions, then it may be an important management tool in the quest to improve performance. As scholars continue to unpack the relationship between transparency/privacy and behavior, these questions of design at multiple levels of analysis seem ripe for investigation and impact.

Traits of the observed and their role in moderating the effect of transparency/privacy on behavior

There is a long history of research on the influence of traits on behaviors and performance at work (Goldberg, 1981; e.g., John & Srivastava, 1999). Some of these traits have recently gotten increased attention; research on extraversion, for example, has been spurred by a widespread belief that highly transparent workplaces are making it harder for introverts to succeed (Cain, 2012). We may be able to learn a lot from work that investigates Big Five traits as moderators for the relationship between transparency/privacy, human behavior, and performance (e.g., Taylor, Ferguson, & Ellen, 2015). In addition to Big Five trait moderators, goal orientation moderators may also be ripe for further exploration, building upon Watson et al.'s (2013: 642)

recent finding that people "higher in avoid performance goal orientation exhibited increased evaluation apprehension" in more transparent environments, which "decreased skill attainment as a result."

Similarly, there is emerging work on how nationality may moderate the effect of transparency/privacy on behavior. Differences have been found when comparing behavioral responses to transparency and privacy in the US and India (Gupta, Iyer, & Weisskirch, 2010), the US and China (Lowry, Cao, & Everard, 2011), Hong Kong and Japan (Ng, 2016), and Egypt, the UK, and the US (Mahrous, 2011). There is certainly more work to be done.

Generational differences are also ripe for investigation. Many claim, particularly in the popular press, that millennials are different in their expectations—both online and in the workplace—of transparency and privacy. Facebook CEO Mark Zuckerberg, for example, said in 2010 that millennials "have really gotten comfortable not only sharing more information and different kinds, but more openly and with more people. And that social norm is just something that has evolved over time" (Gonsalves, 2010). This largely untapped area of research grows in importance as the generation itself makes up a greater and greater proportion of the workforce.

In considering these trait-based, nationality-based, and generational questions in relation to the behavioral consequences of transparency/privacy, the dual observed/observer perspective I have elaborated could add great value. Studies which investigate, for example, how millennial-observer/millennial-observed relationships differ from nonmillennial-observer/millennial-observed relationships will likely have meaningful impact.

Investigating the roots and mechanisms of behavioral responses to transparency/privacy

Figure 7 prompts questions about the automaticity of behavioral responses to transparency: are they automatic or strategic? Is privacy truly a basic human need, or is Goffman's (1959) more complex self-presentation theory closer to the truth? If privacy is a basic human need, can evolutionary drives (Lawrence & Nohria, 2002) explain it?

Using increasingly advanced behavioral research tools—including fMRI machines and physiological sensors for autonomic measurement of impedance cardiography, facial electromyography (EMG), finger pulse amplitude, peripheral temperature, respiration, blood pressure, skin conductance, sweat glands, and more—we can investigate whether the human body responds to increased transparency in an innate and predictable way or whether the mechanisms are more complex, trained, and/or strategic. In addition, while some scholars have theorized a distinction between affective and cognitive responses to transparency/privacy (Li, Sarathy, & Xu, 2011), taking a look inside the brain could significantly improve our understanding. We might also be able to understand if the behavioral responses to observation by different categories of individuals (observer versus observed, manager versus employee, etc.) are biologically different. The more these and other tools help us unearth the mechanisms that connect the desire for transparency when we are observers and the desire for privacy when we are observed, the more we will understand about how to increase both learning and control so that increasingly transparent work environments also become increasingly productive.

Studying the impact of various forms of transparency/privacy

I have lumped various forms of transparency/privacy together under an assumption that they operate similarly, as detailed in Figure 7. But this should be tested by splitting the field into different forms of transparency/privacy. Here I consider six ways of differentiating various forms

of transparency/privacy that may—or may not—have different ways of triggering behaviors by the observed and therefore may—or may not—affect the degree to which transparency affords us both learning and control.

Physical versus data transparency. Physical transparency, such as open offices, and digital transparency, such as open data, may affect behavior differently. Research on transparent office spaces gained momentum in the 1970s and 1980s (Davis, 1984; Sundstrom & Sundstrom, 1986), when trends towards open offices prompted studies of their effect on employee satisfaction, job design, and related measures (e.g., Brookes & Kaplan, 1972; Oldham & Brass, 1979; Oldham & Rotchford, 1983; Sundstrom, Herbert, & Brown, 1982; Zalesny & Farace, 1987), including learning and innovation (Allen & Cohen, 1969). While research on transparent office space has picked up again in the last 15 years (e.g., Allen & Henn, 2006; Banbury & Berry, 2005; De Croon, Sluiter, Kuijer, & Frings-Dresen, 2005), it has been partially overshadowed by discussions of transparent data. Effective managers must be adept architects of both. There is an interesting opportunity to integrate investigations of physical and data transparency, while also integrating the perspectives of the observer and the observed, to create a more holistic treatment of transparency and privacy at work.

Outcome versus process transparency. My review of transparency and privacy suggests multiple ways to implement each. For example, a manager could create either outcome transparency, process/activity transparency, or both (see the "Focus" column in Table 2). In recent research comparing outcome and process transparency, scholars have found that, relative to process transparency, outcome transparency can provide employees more privacy and therefore room to be innovative and creative rather than compliant—more exploration, less exploitation (Patil & Tetlock, 2014). As managers try to balance the risks of "mindless

conformity" (pure exploitation) and "reckless deviation" (pure exploration) in the workplace (Patil, Tetlock, & Mellers, 2016), carefully balancing outcome and process transparency may be a helpful managerial lever.

Temporary versus permanent transparency. Within the realm of data transparency, innovations like Instagram (where photos are instantly transparent but not saved) and Snapchat (where photos and messages are accessible for a limited time, ranging from a second to a day) are changing the way in which data can be made transparent while reducing the risks of that transparency. Whether justified or not, people feel far more comfortable sharing personal information with others when they believe it will not be accessible forever. But exactly how this works and how individuals perceive it remains an avenue for future research.

For example, in mid-2016, Snapchat introduced a "memories" product that would make photos and messages accessible indefinitely on Snapchat servers. Roughly a third of the product announcement was devoted to carefully clarifying what would and wouldn't remain temporary, backed up, or "My Eyes Only" in order to ensure that Snapchatters "feel comfortable" (Snapchat, 2016). Whether users see this change as minor or major, welcome or unwelcome, will be interesting data for our field.

Immediate versus delayed transparency. Can privacy for a certain amount of time, followed by transparency, reduce the hiding reflex while still resulting in more transparency? Some analogous research has been done in the field of deliberative democracy (Calhoun, 1992; Habermas, 1991). Studies finding that limited-time privacy is necessary for effective deliberation have prompted some political scientists to take a more critical view of transparency overall. While public debate is "conducive to reasoned argument and common good," it is also

"primarily a place for presenting positions and not a place for real dialogue (nor for bargaining)" (Bächtiger, Spörndli, Steenbergen, & Steiner, 2005: 158). In Goffmanesque vocabulary, these deliberative democracy scholars find that "when playing for an audience of citizens, legislators in a competitive system know that there is much to gain by discrediting one's opponents and little to gain from praising them" (Steiner, Bächtiger, Spörndli, & Steenbergen, 2005: 130). In the glare of transparency, arguments may "become shallow, poorly reasoned, pandering, or appeal to the worst that we have in common. Indeed, some have traced the deterioration in the quality of dialogue, and increase in gridlock, in the United States Congress to the introduction of always-on C-SPAN2 cameras" (Weisman, 2012). The question now is: "when does the desire to please an audience lead to 'well-crafted' arguments and when does it lead to 'rhetoric, demagoguery, and overbidding'" (Chambers, 2005: 260)?

New empirical political science research on deliberation suggests that, under certain circumstances, "it is better for public deliberation to go behind closed doors and so insulate deliberators from the harmful effects of the glare of publicity" (Chambers, 2005: 255). Observing that normative deliberation theory stresses a productive view of publicity, while empirical research tends to support a negative view, Chambers (2005: 256) argues that "they are both right." Transparency has its place but should be neither extreme nor universal.

To illustrate the negative effect of transparency on discourse, Jon Elster (1995: 251, 1998) compares the Constitutional Convention of 1787 in Philadelphia, which deliberated in private, with the nearly contemporaneous Assemblée Constituante of 1789 in France, which deliberated in public:

> Many of the debates at the Federal Convention were indeed of high quality: remarkably free from cant and remarkably grounded in rational argument. By contrast, the

> discussions of the Assemblée Constituante were heavily tainted with rhetoric, demagoguery, and overbidding.

Amy Gutmann and Dennis Thompson use archival data on the Constitutional Convention to conclude that, in the privacy of the room, "members could speak candidly, change their positions, and accept compromises without constantly worrying about what the public and the press might say" (Gutmann & Thompson, 1996: 115). While generally arguing for transparency, these authors nonetheless argue that privacy is a "justifiable way of encouraging better discussion and fuller consideration of legislation" (Gutmann & Thompson, 1996: 116).

Yet even at the Constitutional Convention, the different perspectives of the observer and the observed were clear. At the start, 22 "rules for conducting business" were set, including "that nothing spoken in the house be printed, or otherwise published or communicated without leave" (Madison, 1987: 28). James Madison took the vow of secrecy seriously, not permitting his notes to be made available (despite numerous requests for the sake of later Constitutional interpretation) until after his death (Madison, 1987). Indeed, Madison felt that "no Constitution would ever have been adopted by the convention if the debates had been public" (Farrand, 1966: 409) and wrote to Thomas Jefferson, who was living in Paris at the time, that the privacy was necessary "to secure unbiased discussion within doors, and to prevent misconceptions and misconstructions without" (Miller, 1913: 285). Jefferson, however, wrote to John Adams: "I am sorry they began their deliberations by so abominable a precedent as that of tying of the tongues of their members. Nothing can justify this example but the innocence of their intentions and ignorance of the value of public discussions" (Miller, 1913: 285). That tension between observed and observer is still with us.

Integrating the perspectives of the observed and the observer in the context of deliberation raises interesting questions of timing: how long should private deliberation last and when should transparency replace it? Research might be able to identify more scientific means than Madison's vow of secrecy unto death by which to decide. Bringing together new research on transparency with longstanding research on hidden profiles (Stasser, Taylor, & Hanna, 1989; Stasser & Titus, 1985), for example, could help us understand how added transparency affects information sharing and the quality of the decisions that are made with that information. Such a research agenda could build on some recent and novel network experiments on how connectivity, clustering, and other forms of network transparency affect search, information sharing, and decision making (e.g., Boudreau & Lakhani, 2015; Shore, Bernstein, & Lazer, 2015).

Consensual versus mandated transparency. Research on the impact of transparency has not paid much attention to the potential role of consent in moderating the behavioral responses to increased workplace transparency, with two exceptions. First, information privacy researchers have recently studied how the language of privacy policies and the process users go through to give consent may affect subsequent behavior (Capistrano & Chen, 2015; Gerlach, Widjaja, & Buxmann, 2015; Whitley, 2009). Second, Mollick and Rothbard (2014) investigate the importance of consent in a field experiment in which they made employees' productivity metrics far more transparent in a game-like form. They find that the transparent gamification increases positive affect at work when employees consent to the greater transparency, but decreases positive affect when they do not.

Research has also shown that even modest compensation may substantially increase one's willingness to forgo privacy (Gabisch & Milne, 2014), indicating that consent (or its absence) may have a broader and more meaningful impact on how individuals respond to increased

transparency than previously thought. Consent by the observed, to various kinds of observers, may therefore be a variable worth exploring more deeply. If it is true that allowing employees opportunities to determine how monitoring is conducted, what is made transparent and to what degree, how the resulting data are used (e.g., for evaluation or self-improvement), and/or how employees are compensated for transparency changes their behavioral responses to the transparency itself (Alder & Ambrose, 2005; Griffiths, 1993a, 1993b), then that would seem to be an important avenue for further investigation.

Anonymous versus identifiable transparency. The workplace continues to struggle with the benefits of anonymity versus the benefits of identifiability. Rypple.com, founded to allow employees to crowdsource individual performance feedback anonymously from others, became work.com when it was purchased by Salesforce.com and now its key original feature—anonymity—is a thing of the past. Meanwhile, there is a seemingly insatiable appetite for apps, such as Whisper, Secret, and Yik Yak, that allow one to post messages and share information without revealing one's identity. Investigating was to make transparency less risky, such as anonymity, offers the opportunity for both deep behavioral research and meaningful impact.

To bring to life both the scholarly and the practical importance of a deep look at anonymity as a variable of interest, consider Google Analytics, one of the largest data collectors on the Web. More than three out of every four times you load a page in your browser, Google Analytics has tracked it, and if you include Google's other trackers, your chances of being tracked on a single page load on any domain exceed 88 percent (Gomez et al., 2009). No matter what Web page you click on, Google probably knows it.

That has important benefits. It is that collect-all-the-data-you-can approach that allows Google to know how many unique visitors there are on a page or how many people actually click through to do what online marketing has suggested they do. Our devices get smarter, the recommendations we receive more personalized, and our business models more advanced and targeted. And Google is a leader in anonymizing data to preserve privacy.

Even so, a set of coders (Modi & Pujol, 2016) has shown that anonymity simply isn't possible if you track a user's every click:

> Let us say that I visited a couple of pages: a) my personal homepage at http://about.me/jmpujol for which I logged in. And b) http://www.depressionforums.org/formus/form/2-suicide-help-please-read-this, an extremely sensitive page. In both cases [Google Analytics's] tracking script is loaded and the browser's window resolution is sent…. The browser's window resolution is not [user identifiable] in isolation since it changes when you resize your browser window but when combined with the IP it can be used to determine that the two pages were visited by the same person. Knowing that the two pages were visited by the same person should not be a problem because the user remains anonymous, right? Unfortunately, that is not the case. After signing in to about.me, Google Analytics started to receive additional data for each page load. This data was not present when not logged in. Therefore, Google Analytics has the ability to learn that the anonymous user is able to login to http://about.me/jmpujol thus breaking the anonymity of the session. Consequently, I can have my real name associated to the rest of the pages in that session, including the page about a very sensitive topic (Modi & Pujol, 2016).

That is not, according to the authors, an isolated case. If I were to log onto a personal website as Pujol did above (say, twitter.com/ethanbernstein, facebook.com/ethan.s.bernstein, or linkedin.com/in/ethanbernstein) and then use the same browser to access other pages, all of those pages could be tied to me. And all of those tracker history data are freely available for purchase and/or accessible online.

Now that you know that, how might your behavior change? If you found yourself wanting to close your browser windows forever, that's consistent with a recent finding by Spiekermann and Korunovska (2016) that people are most likely to value their privacy when made aware of data

markets that deprive them of control of their own information. Anonymity preserves so-called "ownership"—and therefore some control—of private data. Modi and Pujol (2016) propose that the solution also lies in another kind of ownership: a browser that keeps its tracking data on the client side (that is, on your computer) rather than transferring it to the server side (that is, Google's servers). Such questions of anonymity, privacy, transparency, and data ownership are only going to become more important. While policy advocates may lead in conducting research to influence policymakers, the behavioral questions that relate to how anonymity affects learning and control in the Figure 7 model are just as meaningful.

Methodological opportunities and challenges

Transparency is not only transforming workplaces, it is also transforming research on workplaces. I have highlighted how observation by technology has turned intermediate processes which were once black boxes into steady and enormous streams of data. Those data are increasingly available for use by management but also for research, either by external researchers or by data scientists within the organization.

Without care, however, researchers will find themselves in the same trap as managers. We, too, will be observing people who know how to hide what they are doing. We will see trends in the data, but might not be able to differentiate whether they are the result of self-presentation or of the authentic behavior we want to understand. We must therefore increasingly remind ourselves of the lessons from social anthropology and take the dual perspectives of observer and observed seriously. That has a methodological implication: *mixed-method* studies are likely to be increasingly valuable. It is difficult, if not impossible, to capture both perspectives through just one type of data. In particular, field studies which pair self-reported data (such as embedded participant observation, self-reported surveys, and interviews) with transparent, real-time data

(such as longitudinal data that tracks work activities and other intermediate processes and/or field experiments with interventions intended to affect one of those activities/processes) may allow researchers to more completely and convincingly investigate the simultaneous perspectives of observer and observed. For laboratory experiments, using fMRI and physiological tools to contrast the mental and physical responses of the observer and those of the observed to similar stimuli could also yield a dual-perspective understanding.

In management scholarship, what steps might we take to better integrate the perspectives of the observer and the observed? Three seem obvious. First, we might reduce the rather significant hurdles to publishing mixed-methods papers. Second, it may be time to re-envision the human subjects Institutional Review Boards (IRB). A number of big-data research projects (such as those conducted by OkCupid in 2016 and Facebook in 2008 and 2014) have prompted significant backlash because many people who thought they were the observers found out they were being observed (for a very comprehensive review of the facts, see Leetaru, 2016). Tighter standards may be the natural response, but it is probably the wrong one. A better approach might be to adopt different standards adapted to these new circumstances.

The cost of choosing the wrong standards could be devastating to our field. The above discussion has focused on our ability to accurately study others, but we, too, are subjects in this tension between transparency and privacy. The data fabrication and fudging scandals in psychology have prompted discussions and journal policy changes where the substantive question also seems to be: how much transparency versus privacy is productive? Should researchers be required to publish their raw data along with the paper? Should the field move to pre-data-collection acceptance of papers, whatever the outcomes, as long as the paper tests a priori hypotheses? What would be the implications of a “you must post your data” requirement

on field data, like the mixed-methods data highlighted above, for which companies typically require nondisclosure agreements? As organizational behavior researchers, we ourselves face many of the issues described in the reviews of privacy and transparency described above; that is, on the whole, we want transparency, but not necessarily for our own data and research. We should certainly put to use what we know about transparency and privacy in shaping our own field, just as we hope to do so with the fields we study.

IMPLICATIONS OF MAKING TRANSPARENCY TRANSPARENT

I have tried to frame transparency and privacy as interrelated yet conflicting (Lewis, 2000) levers that require balance. The time is ripe to ask how, when, and why they *jointly* affect performance, taking into account not only theories of transparency and privacy but also the interrelated literatures on trust, deliberation, and ambidexterity. Cheap transparency-enabling technology is making it more costly to protect privacy than to eliminate it. Advances in digital communications and monitoring technology have prompted revision of the privacy laws in most developed countries, including the United States, Canada, New Zealand, Australia, the United Kingdom, Japan, and several continental European countries (Solove, 2008). Figure 6 shows simultaneous increases in the appearance of the words “transparency” and “privacy” in books, although it is likely (and if so, unfortunate) that the two terms are turning up in separate books and disciplines. Hazell (1998) and McDonald (2006) both note that legislation on transparency and legislation on privacy seem to move in tandem. As Hazell (1998) observes, “many modern democracies have enacted privacy laws at much the same time (shortly before or shortly after) they have introduced freedom of information laws, producing a legislative balancing act.” It seems that a similar effort by organizational scholars and by organizations themselves to balance transparency and privacy—in the name of performance—is warranted as well.

Reality does not honor the academic separation of transparency and privacy—of the observer and the observed. People need to observe each other and to be observed. If we observe nothing, we learn nothing and can do—or control—nothing. If we are never observed, we are totally isolated. At the same time, people sometimes need not to be observed, or at least will perform better if they are not observed. The needs for transparency and for privacy are not mutually exclusive; rather, they are a pair of human necessities that need to be balanced. But while there has been much exploration, both theoretical and empirical, of each of these two needs, little of it has been concerned with how to balance them for a particular purpose of global importance: organizational performance. Here, then, is a domain of management and organization theory ripe for fruitful work.

Figure 4: Measures of Transparency

	Enforced transparency	**Discretionary transparency**
Upward transparency (from front line to management)	American Management Association's survey of electronic monitoring and surveillance practices George & Zhou's (2001) scale for close monitoring	Scales for speaking up and voice (Burris, 2012; Detert & Burris, 2007; Van Dyne & LePine, 1998)
Downward transparency (from management to front line)	Bloom, Genakos, Sadun, & Van Reenen's (2012) survey of management practices (available at worldmanagementsurvey.org; see question topics related to accountability and evaluation of leaders) Byrd & Turner's (2000) subscale for data transparency	Rawlins's scale of organizational transparency (Rawlins, 2008a, 2008b) Scales of informational justice (Colquitt, 2001)

TABLE 1: CLASSIC TWENTIETH-CENTURY ETHNOGRAPHIC STUDIES IN MANAGEMENT FOCUSED ON DIRECT OBSERVATION OF BEHAVIOR

Author(s) (year of publication)	Subject(s) of observation	Topic(s) of observation
Richardson & Walker (1948)	IBM	Changes in the "social framework" of factory life affected productivity when IBM introduced technological changes and doubled in size.
Whyte (1948, 1949, 2012)	Phillips Petroleum, restaurant industry, Bundy Tubing Company	Relationship between union and management to win over workers, information and social structures, attempt to increase productivity, long strike.
Dalton (1959)	Four companies in North America	Differences between official and unofficial managerial practices and relationship to power.
Sayles (1958, 1964)	Industrial work groups, division of a large American manufacturing firm	Differences in type and structure of work groups, investigation into the nature of managerial tasks.
Gouldner (1954)	Gypsum mine	Shop floor issues including a wildcat strike and aspects of bureaucracy in action.
Lupton (1963); Wilson (1963); Cunnison (1966); Emmett & Morgan (1982)	Shop floor of garment factories, an electronic transformer factory, a valve assembly plant, Citroen works	8 observational shop-floor studies in Manchester.
Roy (1952); Lupton (1963); Burawoy (1979b)	Shop floor in two manufacturing plants (Burawoy returned to one of the plants ~30 years later)	Work organization and culture of the plants in order to explain the occurrence of restriction of output ("goldbricking") by employees.
Crozier (1964)	Two forms of French public service	Roles of bureaucratic systems depend on patterns of power relationships between groups and individuals.
Bower (1970)	Large enterprise	Resource allocation process.
Dore (1973)	British and Japanese factories	Comparative study of "market-oriented" system in UK and "organization-oriented" system in Japan.
Kanter (1977)	Large manufacturing firm	One's location in work structure affects productivity, self-esteem, and competence (job shapes the person).
Van Maanen (1975)	Police department	How individuals locate themselves within organizational boundaries and how individuals and work environment fit together.

TABLE 2: EVOLUTION OF OBSERVATION INTO "TRANSPARENCY" IN MANAGEMENT

Eras of observation in management	Observation's Level of analysis	Observation's Focus	Observation by whom?	Disciplines added
Antecedents (scientific method, naturalist observation)	Natural objects	Universal laws	Trained scientists	Hard sciences
Ancient governments, merchant families, religious organizations, etc.	Organizations	Outcomes	Owners / stakeholders	Accounting
Taylor	Work / tasks	Processes	Managers	Engineering
Hawthorne The Chicago School	Worker / social groups	Behaviors	Academics, ethnographers	Sociology, anthropology
Asch, Sherif, Bales, Bion, Zajonc, et al.	Groups and teams	Interactions	Peers (and "one-way mirror" academic observers)	Social psychology
Technology (STS, CSCW, HCI, HRI, etc.)	Individuals	Activities	Peers, everyone ("big data")	Computer science, economics, design

Evolution toward "transparency" in management, along with increasing focus on observer over observed

"Transparency"

TABLE 3: DEFINITIONS OF TRANSPARENCY WITH PERSPECTIVES OF OBSERVER AND OBSERVED

Transparency as:	Definition	Benefits for observer	Risks for observed
Monitoring	Nonhierarchical observation system that gathers information about an activity or task and makes it widely available ("let us all see your activity"); includes both formal and informal forms of monitoring: • Formal: established at the organizational level (e.g., information systems, written policies, peer evaluations). • Informal: not explicitly established; unspoken norms between peers.	Learning: • Observer-led learning and collaboration are enhanced through a technology-supported, shared understanding of the nature and quality of activities being done (Chalykoff & Kochan, 1989; Griffith, 1993a, 1993b). Control: • Observer's improved awareness of the nature and quality of activities being performed allows observer to more easily align individual interests with organizational goals, reduce behavioral issues, increase perceptions of fairness, and improve performance (Greenberg, 1990; Harkins & Petty, 1982; Holmström, 1999; Loughry & Tosi, 2008; Ma, Moore, & Turnbull, 1988; Tosi et al., 1999; Varian, 1990).	Learning: • Efforts of the observed to improve performance, innovate, create, and learn complex tasks may be misunderstood or stopped prematurely due to an observer's awareness and therefore the risk perceived by the observed of deviation from organizational norms (Aiello & Kolb, 1995; Kirby & Davis, 1998). Control: • Observed may experience varied, unpredictable, or inconstant responses by observers to monitoring data, creating behavior or psychological implications for the observed, including increased stress, lower sense of personal control over activities, withdrawal attitudes from feedback, etc. (e.g., Aiello & Shao, 1993; Amick & Smith, 1992; Carayon, 1993; Stanton, 2000; Stanton & Barnes-Farrell, 1996).
Process visibility	Providing visual information focused on the process or implementation of a set of activities or workflow ("watch our workflow"); includes physical visibility (e.g., open offices, visual factories, open kitchens), and non-physical visibility (e.g., progress toward completion, reputation, presence in the media).	Learning: • Observer's view of the full workflow (versus an isolated task) can increase motivation, understanding/knowledge, self-worth, identification with the customer, and strategic value-creation for the company (Buell & Norton, 2011, 2014; Buell et al. 2016; Burke and Logson, 1996), creating a culture of transparency that can even be shared with customers to drive increased customer satisfaction (Bitner, 1990; Bitner, Booms, & Mohr, 1994; Buell & Norton, 2011, 2014; Mohr & Bitner, 1995). Control: • Observers of the process (including customers) can redirect it midstream (Buell et al., 2016) or synchronize their own efforts to interface better with it.	Learning • The "invisible" work of the observed, which has been found to create value and learning opportunities for individuals and organizations, may be constrained or reduced in more visible environments (Bishop, 1999; Chan, 2013**;** Forsythe, 1999; Nardi & Engeström, 1999; Muller, 1999; Star & Strauss, 1999). Control • The observed may feel devalued due to (a) their workflow being seen rather than themselves (Goffman, 1959), or (b) what is being seen being susceptible to external environment and external pressure (Miles, 1986).

Surveillance	Close, constant, and comprehensive supervision of a comprehensive set of activities, behaviors, and personal characteristics of the observed ("we are watching everything you do"). Surveillance suggests political, social, and/or psychological influence on the observed, as distinct from "monitoring" which is viewed as more neutral observation.	Learning • Holistic, real-time view of work and work tasks allows observer to have comprehensive view of what is being done (Heckscher & Donnellon, 1994). Control • Provides the observer a sense of security or protection (Ball, 2010) in knowing that the interests of the observer are guarded through compliance with observer's expectations (Spitzmuller & Stanton, 2006).	Learning • Signals to the observed an assumption that she/he cannot be trusted without observation, thereby teaching the observed to privilege how to satisfy the observer's expectations over productivity or improvement (Ball, 2010) and thus discouraging learning relative to compliance (Adler & Borys, 1996). Control • Perceived by the observed as a tool of oppression and/or hierarchical power (Levy, 2015), potentially undermining the voice of the observed (Burris, 2012; Detert & Burris, 2007), decreasing organizational commitment (Brown & Korczynski, 2010), increasing mistrust and resentment (Strickland, 1958), and causing the observed to resist through creative data manipulation and evasion tactics (Levy, 2016).
Disclosure	The act of making new or previously secret information known ("let me tell you about our work"); responsibility to disclose is placed upon the observed; used often in the context of accounting and corporate social responsibility (CSR).	Learning • Observer learns from information disclosed inside and outside of the organization, thereby enabling both observer and observed to experience enhanced relationships, trust, credibility, and decision making (Core, 2001; Healy & Palepu, 2001; Leuz & Wysocki, 2008; Levitin, 2013; Ullmann, 1985). Control • Observer benefits from increased quality and breadth of information, as observed will focus on providing high-quality data and explanations with the knowledge that the observer (and, potentially, third parties such as auditors) will be reviewing and analyzing the disclosed data (Lang & Lundholm, 1996).	Learning • Disclosure alone does not guarantee that anyone is paying attention or accurately interpreting the information; more complex information is more likely to be unexamined or misunderstood (Prat, 2005). Control • Observed cannot guarantee the accurate examination or interpretation of the information (Eddy, Stone, & Stone-Romero, 1999; Prat, 2005).

Literature that informs more than one of the cells above includes Altman, 1975; Attewell, 1987; Ball, 2010; Barker, 1993; Foucault, 1977; Gilliom & Monahan, 2012; Jourard, 1966; Lamont & Molnár, 2002b; Lyon, 1993; Marx, 2012; Prat, 2005; Rosso, Dekas, & Wrzesniewski, 2010; Rushing, 1966; Sewell, 1998; Sewell & Barker, 2006; Staples, 2013; and Stone & Stone, 1990.

TABLE 4: AREAS FOR FUTURE WORK

1. **The role of artificial intelligence (machine learning) as an observer**
- If the observer is a computer instead of a person, is the response of the observed the same or different?
- Are there conditions which allow a machine to surface the learning and control benefits to the observer without triggering the risks to the observed?

2. **Studying the perceived value of transparency and privacy**
- How do individuals perceive the value of transparency and privacy for learning and control?
- When are individual behaviors congruent/divergent with the stated value?

3. **Hierarchical versus peer transparency as a form of control**
- How do the behavioral effects of transparency/privacy change when the observer-observed relationship is hierarchical (e.g., boss-subordinate) versus peer?
- Are the effects different when both observer and observed are within a stable structure (same organization or group) versus the public (crowds or flash teams)?

4. **Investigating the culture of transparency and the role of trust**
- How do culture and trust moderate the effects of transparency/privacy on learning and control?

5. **Using levels of analysis to find productive strategies for combining transparency and privacy**
- How do the perceived risks and benefits of transparency versus privacy change when the observed is an individual, group, division, or entire organization?
- Is there a connection between how transparency/privacy is designed and an organization's structural ambidexterity?

6. **Traits of the observed and their role in moderating the effect of transparency/privacy on behavior**
- Does transparency/privacy operate differently for people with different traits (e.g., extroverts versus introverts)?
- Does transparency/privacy operate differently for different nationalities?
- Does transparency/privacy operate differently for millennials?

7. **Investigating the roots and mechanisms of behavioral responses to transparency/privacy**
- Is privacy a basic human need (automatic) or a choice (strategic)?
- How can neuroscience help us understand behavioral responses to transparency/privacy?

8. **Studying the impact of various forms of transparency**
- Do physical (e.g., open offices) and data (e.g., open data) transparency operate differently?
- Do outcome (e.g., output) and process (e.g., activity) transparency operate differently?
- Do temporary (e.g., Instagram) and permanent (e.g., Google) transparency operate differently?
- Do immediate transparency (e.g., real-time access) and delayed transparency (e.g., private deliberation followed by public disclosure) operate differently?
- Do consensual and mandated transparency operate differently?
- Do anonymous and individually identifiable transparency operate differently?

9. **Methodological opportunities and challenges**
- Mixed-method studies that combine the methodologies of transparency and privacy research.
- Real-time field studies that simultaneously capture data on the perspectives of the observer and the observed as organizations increase transparency.

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