Sayyed Mohsen Fatemi *Editor*

Critical Mindfulness

Exploring Langerian Models

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To Professor Ellen J. Langer,
the founder of critical and creative mindfulness,
the mother of positive psychology,
and the harbinger
of mind/body medicine and the psychology of possibility

Preface

This book presents chapters on Langerian mindfulness and its implications. The book also serves as a festschrift for Professor Langer who has brought a new horizon of being, living, and thinking for the world thus presenting an opportunity for us to be able to experience our world, ourselves, and our relationships more positively. Langerian mindfulness challenges our mindlessly accepted "truths" and shows the profound benefits of living mindfully.

Dr. Ellen, J. Langer may be described as one of the most revolutionary psychologists of our era. She revolutionizes psychology through bringing focus on the most saliently distinguishable human gift, namely thinking. Through hundreds of papers, experiments and books, she argues that thinking is too often shut down. This internal mode of closure comes on the strength of priming and the general state of mindlessness. The external process behind this mindlessness comes through our institutions including our educational systems, governmental agencies, and politics.

Langerian mindfulness is creational, critical, and creative. It is creational in that it opens up new chapters and novel avenues of exploration in psychological science. It is critical as it revisits and occasionally revamps the dominant mainstream paradigm. It is creative as it provides how a shift in paradigm of mainstream psychology unlocks the exploration of epistemologies, creating possibilities which may have been marginalized or concealed due to our general mindlessness.

Langerian mindfulness starts off with the foundational problems of thinking but it moves forward with a revision of our predetermined knowledge about thinking. It calls for scrutinizing the discourse of certainty both in content and methodology.

Ellen Langer's contributions may be best seen in the piece right after the preface by Philip Zimbardo.

In my own chapter "Critical Mindfulness of Psychology's Mindlessness," I argue how mainstream psychology has been mainly infatuated with precision, objectivity, universality, refutability, and verifiability. This, in the long run, has led to recognition of a privileged voice for the observer in psychological research which has mindlessly marginalized the voice of the actor. I propound that the revision of the American psychology can be facilitated through the implementation

of a genuine mindfulness where the possession of truth is not going to be at the monopoly of a specific culture. This chapter calls for questioning the unquestionability of the perspective of the observer and indicates that Langerian critical and critical mindfulness goes beyond the epistemic engagement with the abstract-oriented concepts but an ontological involvement with the praxis of the process of knowledge construction. This chapter examines Langerian mindfulness in giving rise to the possibility of looking from the perspective of the actor and looking for shared dialogical components while reflexively examining the intersubjectivity of his or her position in directing the dynamics of the perspective.

In "The Construct of Mindfulness Amidst and Along Conceptions of Rationality", Mihnea Moldoveanu excavates the epistemological and psychological aspects of rationality and mindfulness and demonstrates how an emphasis on an epistemological position may constrict the process of achieving mindfulness. He addresses the relationship between mindfulness and rationality and indicates how Langerian mindfulness may present a novel view of rationality through presenting a possible shift in the underlying epistemological components of psychology's perspective.

In "On The Way to Mindfulness: How a Focus on Outcomes (Even Good Outcomes) May Prevent Good Outcomes," Maja Djikic elaborates how mindlessness may incarcerate us within an outcome-oriented perspective and deprives us of exploring the process in relationship to an outcome. She examines Langerian critical mindfulness in critiquing the merely outcome-oriented approaches and elaborates how critical mindfulness may provide us with a more comprehensive psychological relationship with the dynamics of a behavior. She argues how Langerian critical mindfulness may lead to more psychological and health benefits.

In "Understanding Confidence: Its Roots and Roles in Performance", Rosabeth Moss Kanter, and Daniel P. Fox present a recondite analysis of confidence through an increase of critical and creative mindfulness. They discuss how a choice of behavior may result from an increased state of mindfulness. Their chapter demonstrates how a mindful-based confidence entails the role of character and looks into the implications of accountability, initiative, and collaboration for confidence enhancement.

In "Irrational Attachment (Why We Love What We Own)," Dan Ariely, Matt Trower, and Aline Grüneisen through Illustrations by Matt Trower focus on Langerian mindfulness, the foundation of behavioral economics, the endowment effect, and the decision-making process. They examine Langerian critical mindfulness and its implications within rational and irrational process of decision-making.

In "Mindful Dissent," Stuart Albert presents a case analysis in view of Langerian mindfulness and elucidates how an increase of critical and creative mindfulness would open us toward understanding that may have already been mindlessly blocked. He discussed the role of critical mindfulness in giving rise to the psychology of possibility and its implications for decision making especially with respect to crisis management.

In "Psychohistory as a Means to Understanding Langer's Contributions to Psychological Science," Jack Demick argues how Langerian mindfulness and its

critical and creative implications may become a unifying framework for the field of psychological science. He presents the characteristic features of critical mindfulness as the significant foundational component for expanding the role of Langerian mindfulness in the psychological discourse.

In "Mindfulness in Action: The Emergence of Distinctive Thought and Behavior," Robin R. Vallacher, Matthew S. Jarman and Steven S. Parkin discuss Langerian critical mindfulness in facilitating the process of connectedness to the present moment and elaborate its implications for different thinking processes. They compare higher order and lower order perspectives in view of their leading strategies and examine their practical manifestations in experiential and phenomenological encounters. They illustrate the benefits of Langerian models in espousing creative and novel approaches in an experiential connectedness

In "Priming the Mind to See Its Double: Mindfulness in a New Key," Louise Sundararajan and I focus on Langerian mindfulness and relational mindfulness. We draw on physics notion of symmetry to explain relational mindfulness and also show that this framework is compatible with the Langerian formulation of mindfulness. We conclude with a study in which relational mindfulness was experimentally induced to test the hypotheses that (a) the capacity of the human mind to see its double beyond the social arena can be primed; and (b) attunement with a virtual mind can reap unique mental health benefits such as tranquility and a sense of well-being associated with affiliative fantasies.

In "Langerian Mindfulness and Optimal Sport Performance," Amy L. Baltzell & John M. McCarthy provide a theoretical foundation for Langerian mindfulness and sport performance while connecting Langerian mindfulness as a direct pathway to enhance performance to Czikszentmihalyi's concept of flow (a fully engaged experience). They present examples from elite athletes applying Langerian mindfulness and discuss the benefits of critical mindfulness in performance enhancement.

In "Health and Psychology of Possibility," Deborah Phillips and Francesco Pagnini look into the clinical and health implications of Langerian mindfulness. They argue how understanding critical components of Langerian mindfulness would bring about significant health implications. Their chapter focuses on counterclockwise study and its demonstration for broadening the horizon of psychology of possibility.

In "Ellen Langer, Philosophy, Autobiography, and a Healing Quest," James Rhem delves into the role of Langerian critical mindfulness in revitalizing the role of philosophy for psychology. He argues how psychology's departure from philosophy brought about an emphasis on monopolizing perspectives within mainstream psychology. He elucidates how critical mindfulness within Langerian models would contribute to the emergence of an authentic self and its creational capabilities.

In "Possible Components of Mindfulness," Michael Lamport Commons and Dristi Adhikari put mindfulness into a scientific context with a focus on five behavioral components related to critical mindfulness. They discuss the benefits of

critical mindfulness for real-life situations and indicate how an increase of critical mindfulness would lead to various levels of improvement in one's way of living.

Overall, this book presents a fresh perspective on critical mindfulness and its transformative role in developing a radical transformation of consciousness. The book intends to delineate how this understanding may generate significant implications in various realms of the field of psychology. It also hopes to highlight to the reader the practical benefits of critical mindfulness in creating a better world where one's well-being is mindfully created and celebrated.

Cambridge Sayyed Mohsen Fatemi

A Note From Howard Gardner

"There are many excellent scholars in the world. Ellen Langer stands out in two respects. First, she is an *original*—a person who is equally at home in the arts and the social sciences, and who comes up with new ideas with almost every breath. Second, her work on mindfulness has entered into the public consciousness in so pervasive a way that most individuals do not know its source. Fortunately, within the academy, Ellen Langer's contributions are widely recognized."

Howard Gardner

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About the Editor

Dr. Sayyed Mohsen Fatemi (Ph.D., University of British Columbia, 2003, Post Doctorate, Harvard University, 2009–2013) is a Fellow in the department of psychology at Harvard University and works on mindfulness and its psychological implications for cross cultural, clinical and social psychology.

He is a frequently published author and has been the keynote speaker of numerous international conferences.

He brings mindfulness in his psychological and therapeutic interventions and has run training and coaching programs for clinicians, practitioners and corporate people in North America, Europe and overseas.

His publications appear in Springer, Wiley, Cambridge University Press and Oxford University Press and Journals such as APA's Journal of Theoretical and Philosophical Psychology.

In addition to teaching at Harvard, he has also taught for the department of psychology at the University of British Columbia, Western Washington University, University of Massachusetts in Boston and University of Toronto.

He is presently working on the clinical implications of mindfulness for anxiety and stress management.

A Brief Look at Ellen Langer's Many Contributions

It is an enormous pleasure for me to share my views of Professor Ellen Langer. I have watched her career unfold from the very beginning and her enormous promise was evident even from the start. Her profound influence upon her chosen field has continued to grow over the four decades since.

As I hope to make clear, Dr. Langer's prolific, ground-breaking research has had enormous impact on numerous theoretical and applied aspects of almost all areas of psychology and society. Indeed her elegant and deceptively simple investigations have had worldwide ramifications well beyond psychology. She is clearly a leading scholar in her own field, but is also one of the world's most innovative thinkers. Her mindfulness research has shaped how we view our most significant concerns. These include such topics as how we may age more productively, how our mind can most readily influence our body, and how we can improve our health, longevity, and well-being by giving up our overlearned ideas mindlessly accepted in the past. Her work shows how memory can create unnecessary limits but can also be used to facilitate growth especially for older populations. This research has often dispelled myths and consequently has brought about positive change.

Psychology and the dominant culture across the US and Europe in the early 70s had as its model of "Man" a rational decision-maker who moved consciously through his day. Ellen Langer was instrumental in changing all that. Her illusion of control studies showed that people believed or at least acted as if they could control chance. This started an avalanche of work that has finally put an end to the rational model. Similarly, her work on the mindlessness of ostensibly thoughtful action, paved the way for an end to the cognitive revolution, showing that unconscious processes operate more as the rule than the exception. She argued for growth in late adulthood when aging was taken as a time only of loss. Finally, her work on health and mind/body issues put an end in all but the smallest circles to the biomedical model, where one's psychology/beliefs were considered irrelevant to health.

In a host of studies conducted over the past 30 odd years, she and her colleagues have demonstrated that increasing mindfulness results in an increase in memory,

creativity, competence, leadership, learning, positive affect, improved vision, hearing, and, again, increased longevity to mention just a few of these remarkable findings. Mindfulness as she studies it is essentially intentional thought rather than overreliance on past memories.

Dr. Langer's earliest work in the 70s was an important indicator of the role she would play in the field. Before she completed her dissertation, she published a paper ("A patient by any other name") that showed that labels act as primes and dictate how we view people without our being aware of it. This was the first study on the confirmation bias showing that we mindlessly seek hypothesis confirming data. This research on illusory correlation subsequently has been found to be significant in the cognitive processes underlying prejudice and is an early demonstration of how overlearned categories often mislead.

Her Ph.D. thesis on the illusion of control almost instantly became a research classic showing, among other things that choice is so crucial to our well-being that it increases perceived control even over chance outcomes. Interestingly, these findings were so important that they instantly become part of our knowledge base and influenced at least four subsequent bodies of work in psychology and other fields. The illusion of control work, for example, was the backbone of what would later become behavioral economics. In those studies, Langer was also the first to research what would eventually be called the endowment effect, to wit, merely choosing an item increases its value. The studies in that series were also the first general priming studies (mindlessness) done in the field. Adding elements of skill like choice, to chance tasks leads to skill oriented behavior although, again, we are unaware of the influence. In all of the priming studies, rigid memories from the past lead us to overlook the present.

Her contributions to our knowledge about psychological and physical health are equally varied and significant. No textbook in social psychology goes without mentioning the extremely dramatic research she and Rodin conducted with elderly patients on healthy aging (Rodin and Langer 1977) which demonstrated that psychological variables such as choice could affect longevity. As every reader of psychology texts knows, the results of that work demonstrated that small increases in control of one's surroundings were associated with large increases in longevity. Elderly adults in institutions who were given choices lived longer. This ushered in a new view of mind/body relationships. Again, its influence was so important that we now take for granted that by changing our minds from reliance on rigid memories to intentional mindful thought, we can change our bodies.

In subsequent work, she posited that the effects of choices in general is mediated by mindfulness, a concept that Dr. Langer introduced to the field in the 70s that is now studied in virtually every subdiscipline of psychology. Mindfulness, as she defines it, is the simple process of drawing novel distinctions. Noticing novelty situates us in the present, and thus, we become more sensitive to context and perspective. We become aware that our earlier certainty may have been ill-founded which leads us to naturally pay attention. Because her construct of mindfulness without meditation is so easy to implement, schools and organizations can (and have) readily put her work into practice.

Langer (and others she has influenced) has now amassed a considerable body of research that demonstrates that increasing mindfulness (active intentional learning) has positive effects on virtually *all aspects* of our behavior. These findings are both consistent and remarkable. Interestingly, they also antedate recent work in neuropsychology demonstrating positive effects of meditation by 25 years. In 1979 she conducted an early experimental investigation in mindfulness and found astonishing benefits both with and without meditation.

In one of the most dramatic examples of Langer's innovative approach to life's problems, she shows a way that mindless memories can have a very large positive effect on health and well-being. She attempted to show that most debilitations we suffer are reversible, and consequently, that the markers of old age could be reversed by the clever use of prior memories of effectiveness. To demonstrate this, she utilized an ingenious week-long curriculum to have seniors turn their clocks back. This work was the subject of a three part BBC series where the findings were replicated with British celebrities and even more recently was replicated with seniors in South Korea and The Netherlands. Participants lived for a week as if it were the past, surrounded by props (reminders) from the past and speaking of the past in the present tense. Her idea was to prime memories of when people were vital as a way to remove psychological impediments to growth. By remembering "the good old days" so to speak, vision, and hearing improved as did cognitive functioning and participants in the experimental group even looked younger by the end of the week. This was the first test of her mind/body unity theory which, in contrast to prevailing Cartesian Dualism, suggests that if we see the mind and body as one, then wherever we are putting the mind, we are putting the body. This explains placebos and spontaneous remissions from a mindfulness/mindlessness perspective.

She continues her research on the mind/body unity theory to this date. In 2007, she had shown that merely changing the mindset of "work" to "exercise" for chambermaids to prime positive consequences about exercise, resulted in significant changes in weight, a drop in blood pressure, decreased waist to hip ratio and body/mass index. In another study she changed people's expectations about what they can see and improved vision. The most recent tests of the mind/body unity theory are as or more amazing. In one study with diabetics she had them perform a computer task where a clock on the screen was real time, twice as fast as real or half as fast. She found blood sugar level followed perceived rather than real time, suggesting an eventual psychological cure for diabetes. In another study she had healthy participants in a room with tissues, chicken soup, Vaseline, etc, watch a video of people coughing and sneezing to prime a cold. Participants actually gave themselves a cold without the introduction of a virus. Langer believes we have far more control over our health than we realize. These groundbreaking studies are proving her right. Her work has always been ahead of the curve, and that has been a consistent pattern.

From her first work on the illusion of control to her current research, she has been at the forefront of what would soon become the dominant paradigm in the field. Most would agree that her work on mindfulness (mindlessness) set the stage for the work on priming and nonconscious influences on our behavior that have

presently become so important to the field of psychology. Before examining how we think, Professor Langer asked us in the 1970s to consider if we are thinking at all and if so, when, rather than presume rational conscious thinking was the rule. Much of what we do and think is dictated by the cues in the environment that we have mindlessly learned in the past.

Her current work is establishing the psychology of possibility with particular relevance to health. If the past is at all accurate in forecasting the future, and if we are fortunate, within the next 5–10 years, the field of psychology may catch up to her and reveal yet again substantial findings that we can only guess at the moment.

She argues that we become mindlessly trapped in the categories we create and thus experience unnecessary limits. One of these mindless categories may be science vs art. If not mindlessly separated in our schools and culture, perhaps we would see how profoundly one area might influence the other with respect to content and procedure. For example, in a study on music, she found that when orchestra musicians were taught to play mindfully, they and audiences alike preferred the mindfully played music, over the pieces played by rote.

There is an art to doing research that no one exhibits more clearly than Ellen Langer. Here Professor Langer herself may be taken as a model for future ideas regarding education. She may be seen as a modern day Renaissance woman. She is not only an intellectual world leader, she is also a gallery-exhibiting artist.

Philip George Zimbardo, Ph.D. is a psychologist and a professor emeritus at Stanford University. He became known for his 1971 Stanford prison experiment and has since authored various introductory psychology books, textbooks for college students, and other notable works, including The Lucifer Effect, The Time Paradox and The Time Cure. He is also the founder and president of the Heroic Imagination Project.

Reference

Rodin, J., & Langer, E. J. (1977). Long-terms effects of a control-relevant intervention with the institutionalized aged. *Journal of Personality and Social Psychology, 35*(12), 897–902.

Critical Mindfulness of Psychology's Mindlessness

Sayyed Mohsen Fatemi

Introduction

Critics have argued for a long time that psychology has an infatuation with precision, objectivity, universality, refutability, and verifiability (Guba and Lincoln 1994; Holzkamp 1991; Teo 2005; Tolman 1994). I argue that this situation has brought about a focus on the legitimacy of the perspective of the knower, namely the expert who, at the center of discourse of power, could collect and analyze the data and then embark on generalizing the information for the sake of generative theories. Psychologists with a critical approach have demonstrated that discourse of power within the logical positivist psychology defined, regulated, and prescribed the legitimacy, privilege, and the control of the expert. The expert was the one who could know the reality, who had access to the truth and who could see the truth of the truth (see Code 1995; Danziger 1990; Hare and Secord 1972; Teo 2005; Tolman 1994). In this chapter, I call into question the supposed expert's perspective in psychology, and argue that the mindlessness of the mainstream psychology in its dependence upon the expert's perspective needs to be revisited.

In discussing the role of the expert's perspective in psychology, Walsh-Bowers (2005) notes that

> North American psychologists' habitual adherence to a research relationship of expert investigator and ignorant "subject" had a marked impact after World War II on the rapidly expanding field of clinical psychology and ultimately on community psychology. When they adopted the "scientist-practitioner model" in 1949, clinical psychologists hoped to establish the scientific legitimacy of their profession for which identification with the hierarchical laboratory model of experimentation seemed essential. (pp. 100–101)

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Logical positivism maintained that there was always a distance between the researcher (the knower, the observer, or the expert) and the reality of the research object (see, Herda 1999). Logical positivism underlined the significance of exploring universal laws for knowledge. The scientist/the expert who could move in line with these universal laws had the privilege of producing scientific discourse (Bronowski 1956; Holton 1993; Whaley and Surratt 1967). The positivist-oriented expert in psychology was, in the eyes of logical positivist psychology, an objective and value-free observer, who could know the reality without bias. For the positivist, the truth manifested itself in an observable and external reality, which could be discovered through universal laws (see Bronowski 1956; Feigl 1969; Guba and Lincoln 1994; Holton 1993). The notion of the positivist knowledge, its universality, and its quintessential truth has been challenged by philosophers, scientific theorists, and critical psychologists (see Danziger 1990; Delby 1996; Kuhn 1970; Landesman 1997; Popper 1959; Teo 2005; Tolman 1994; Ziman 1991).

Bryant (1985) makes a distinction among three types of positivism: the French tradition ranging from Saint-Simon to Durkheim, developments in German and Austrian social theory and research before 1933 and after 1945, and American empirical research from 1930s to the present. Bryant (1985) indicates that the empirical research in the United States is characterized by an engagement in the refinement of statistical techniques and research instruments. In addition, the focus is placed on the expert as the observer of the research and the possibility of implementing a value-free and objective research (see Bronowski 1956; Feigl 1969; Guba and Lincoln 1994; Holton 1993).

Discussing the empirically based psychology, Winston (2001) indicates how psychology denied any metaphysical search for understanding and considered itself an exact science similar to physics. Describing the technology-driven psychology and its concentration on obtaining laws similar to the laws of physics, Winston (2001) pinpoints that "by the early 1900s, educational researchers in Germany, England, and the United States took up the search for the most effective educational techniques through experimental manipulation of classroom conditions" (p. 124).

Slife and Gnatt (1999) present the underlying components of psychological research that contend to move in line with the natural science and demonstrate how the psychotherapy and psychology's focus on numbers, operationalization, measurement, and quantification would block the avenues of research in exploring possible meaningful perspectives and impose acting from a single perspective. In elucidating this, Slife and Gnatt (1999) reiterate that "We submit that this obvious lack of knowledge seriously impedes our ability to gain accurate and meaningful access to a great many phenomena of psychological and clinical interest" (p. 1455).

In describing the role and the implications of logical positivist psychology and its approach toward the subject of research, Danziger (1990) explicates that

> The received view is based on a model of science that is reminiscent of the tale of Sleeping Beauty. The objects with which psychological science deals are all present in nature fully formed, and all the prince-investigator has to do is to find them and awaken them with the

> magic kiss of his research…. In the past the effects of a naive empiricism may have assigned an essentially passive role to investigators, as though they merely had to observe or register what went on outside them. (p. 2)

Expert's Perspective in Psychology (The Perspective of the Observer)

In line with the critique on positivist science by Horkheimer (1937/1992) and on psychology by Danziger (1990) and Teo (2005), I argue that it was on the strength of the perspective of the observer or the expert in psychology that the subjects of research or the participants could come to realize the unknown parts of their self or could have their characteristics identified, analyzed, and understood. It was the expert who determined the levels and contents of knowing. In Mindfulness (1989), Langer makes clear the importance of considering the actor vs observer perspective and suggests that the field is generally blind to the difference as it pursues the observer's perspective.

I even argue that the expert follows a monological path based on his or her position of knowing: The excavation of deeper meanings often take place by the expert whereas the person who produces the talk (the actor) is almost always unaware of his or her reality unless they are exposed to the privilege of the interpretation by the so-called psychoanalyst (see Jaspers 1997).

In proceeding with my arguments, I want to underline that the scientific model of knowing in mainstream psychology is tied to the notion of prediction and control and endorses the legitimacy of the expert's perspective over that of the actor. This is the observer that, through using the right methods and tools, cannot only identify the reality of the actor but also the needs of the actor. The actor can come to the reality of his or her problem, wants, motives, and so on through the help of the observer. In a critique on the positivist research, Code (1995) challenges the view since "knowers are detached and neutral spectators, and objects of knowledge are separate from them, inert items in knowledge-gathering processes, yielding knowledge best verified by appeals to observational data" (p. 17).

Focusing on prediction and control as the conspicuous features of positivism and its leading philosophy for research, Herda (1999) pinpoints that

> Rationality in the received view of research is often thought of as a logical or linear thought process carried out by a researcher in a position external to the data. The goal is to collect data and put them in a form that represents and controls the world under investigation. The world of the researcher and the world one studies are separate from one another. (p. 132)

The positivist realm of psychology was eagerly looking for discovering the laws that would display how causes and effects would transpire in human interaction and their hierarchical levels. As such, positivist psychological research mainly relied on quantification as a tool to determine the precision and objectivity. Specifically, plausibility and sensibility of causal laws would need to borrow their proof from the provable quantifiable data. Measurement and assessment, therefore, provided the

logical positivist-driven psychology with the joy and rigor of substantiation. I would like to pinpoint that this gave rise to the sovereignty of a standard language of psychology from the expert's perspective that could delineate how life inside and outside the laboratory needs to be governed (see Holzkamp 1991; Tolman 1994).

In describing this process, Walsh-Bowers (2005) examines the underlying components of the expert's perspective in psychology and its historic roots and argues that

> proponents of scientific rigor successfully imposed standards of decontextualized detachment for the investigative situation, minimizing the interpersonal context of conducting research to establish universal laws of behavior that transcended time, place, and person. (p. 98)

I would like to reiterate that the positivist psychology's claim of universality suggests that scientific psychological knowledge has to be obtained by virtue of a solidified methodology. Therefore, the results obtained would not be considered knowledge, according to the positivist-driven psychology, if it were not acquired and conveyed within the framework of the preestablished legitimate methodology.

According to Teo (2005),

> From a critical perspective, one would have to describe an investigative practice that conceptualizes the subject matter by the way the method prescribes it, as *methodologism* (Teo 2005), a concept similar to the one used by Bakan (1961/1967), *methodolatry* (p. 158), to denote the worship of method. In a similar vein, Toulmin and Leary (1985) referred to the *cult of empiricism* and Danziger (1990) called it the *methodological imperative.* (p. 36)

The positivist viewpoint, I want to argue, excluded any language and discourse which could not be apprehended through the five physical senses. One may track down the roots of positivist-driven psychology in Darwinian evolutionary theory, the privilege of natural sciences' methodology and their implications for formulating the universal truths (see Scruton 2009). Psychology in its mainstream positivist version, thus, claimed to be a value-free discipline that is in search of the truth through conducting objective research with a focus on measurement. The claim purported that with the rise of the right and the legitimate methodology, one can acquire the true knowledge about individuals regardless of culture, history, and contexts.

Habermas (1972) indicates that positivism monopolizes the realm of knowing and refutes the possibility of any mode of knowing except the ones that are legitimized through positivist science. In challenging positivism, Habermas (1972) indicates that "scientism means science's belief in itself: that is, the conviction that we can no longer understand science as one form of possible knowledge, but rather must identify knowledge with science" (p. 4).

Furthermore, Habermas (1972) also challenges positivism's claim that through the use of the right method and techniques, one may explore the truth. For example, Habermas (1972) demonstrates how a focus on the positivist and technique-oriented perspective would give rise to technological consciousness, but would be oblivious to other forms of consciousness.

Winston (2001) describes how the sovereignty of establishing a physics like psychology was the leading factor for the experimental psychology, arguing that

> … Titchener characterized Mach's view as allowing that psychology could become an exact science in the same way as physics. According to Titchener, Mach quoted Queteleton the idea that experiments "yielded varied outcomes because of chance" but that chance is subject to law, and the "intellectual elements of our social life, the psychological processes, are no less uniform than the rest. (p. 130)

The positivist-driven aspiration of changing psychology into physics is still the goal of a number of psychologists who underline the relationship between the scientific truth and the rigorous methodologies. Deep down this assumption is the claim that behavior can be examined and analyzed through the use of the right techniques and methods. The standardized techniques and methodologies would endorse the legitimacy of the observer speaking for the actor. This gives rise to reductionism where intentions and meanings are disengaged from actions and behaviors and language loses its power except the language of the observer who is armed with the techniques and standards (see Herda 1999).

The expert, in the eyes of the positivist psychology, is the one who has already legitimized their expertise through complying with the privilege of the methodology within natural sciences and implementing value-free empirical research (see Arthur 1966; Danziger 1990; Grove et al. 2000; Hammond et al. 1964; Holzkamp 1991; Lanyon 1972; Teo 2005; Tolman 1994).

The Legitimacy and Privilege of the Perspective of the Observer

It has been within the domination of the empirical–analytical psychology that the perspective of the expert has gained its legitimacy. This legitimacy has given rise to the presentation of the experts' views as unquestionable facts with huge practical implications. In delineating the power of the expert-oriented psychology and its practical implications, Latour (2004) notes that

> Only in the name of science is Stanley Milgram's experiment possible, to take one of Stengers and Despret's topoi. In any other situation, the students would have punched Milgram in the face… thus displaying a very sturdy and widely understood disobedience to authority. That students went along with Milgram's torture does not prove they harboured some built-in tendency to violence, but demonstrates only the capacity of scientists to produce artifacts no other authority can manage to obtain, because they are undetectable. The proof of this is that Milgram died not realizing that his experiment had proven nothing about average American inner tendency to obey—except that they could give the appearance of obeying white coats! Yes, artifacts can be obtained in the name of science, but this is not itself a scientific result, it is a consequence of the way science is handled (see the remarkable case of Glickman 2000). (p. 222)

Broad Social and Cultural Implications

Danziger (1990) presents a historical account of the relationship between researcher and the subject of research and demonstrates how psychological knowledge

including the expert's view is socially and culturally constructed. Danziger (1990) discusses the historical roots of relationship between researcher and the subject of research in Germany, France, and England and highlights how the subject of research was subjected to the socially constructed view of the psychologists as experts. Furthermore, Danziger (1990) demonstrates how the experience of "the subject of research was to be discounted in the dominant model of psychological investigation" (p. 183).

The researcher's voice and its legitimacy in deciding what to do have been a leading factor in endorsing policies, programs, and projects with huge social implications. The proponents of IQ tests abided by Social Darwinism and claimed that the ones with low intelligence were doomed to failure and had to be eradicated. The Darwinian-driven psychology considered its right to condemn those who did not possess the required intelligence (see Albee 1981; Clark 1965; Nelson and Prilleltensky 2005). Exemplifying the condemning role of such legitimacy, Albee (1981, as cited in Nelson and Prilleltensky 2005) highlights the statements of a psychologist who acts from the perspective of the observer and leaves no room for the actor. The psychologist's words are as follows:

> We face the possibility of racial admixture here that is infinitely worse than that favoured by any European country today, for we are incorporating the Negro into our racial stock, while all of Europe is comparatively free from this taint… the decline of American intelligence will be more rapid… owing to the presence of the Negro. (Brigham [Princeton psychologist] 1923)

On the implications of the expert's legitimacy in implementing policies, Langer et al. (1978) writes,

> Examples of the tendency of experts to use fixed categories when others might be more revealing can be found in many official educational assessments. Take the landmark of Equality of Educational Opportunity report, which found that students' achievement was highly correlated with students' socioeconomic background but apparently uncorrelated with school quality. This report has had an enormous impact of educational policy in the last twenty years. It led many educators to the disturbing conclusion that improving school quality would not increase students' level of achievement. Although this conclusion resulted in positive systemic changes, such as greater racial integration, it also created the unfortunate impression that educators who attempted to make changes in the school apart from changing their socioeconomic makeup were misguided. (p. 127)

Underneath the consecration of the expert's command of the world, there lies the philosophy of logical positivism where the manipulation of the world through the so-called scientific methods would give rise to universal laws that would predict the state of affairs. The expert's observation was, as the logical positivism claimed, the key to the truth and truth was explored within the paradigmatic analysis of the perspective of the expert where the reality would be described, explained, controlled, and predicted by the expert (Berg 2009; Code 1995). In explicating the expansion of the positivist-driven psychology and its endorsing role for recognizing specific modes of expressiveness and denying and marginalizing other ones, Fine (2002) notes that

> For better or worse, the more troubling question for critical feminist researchers, with respect to the presence of an absence, is not actually which methods to apply but questions about our disciplinary reliance on positivism. That is, psychology's obsession with the observable, the model-able, and the connectable has forced us into very narrow holes about what we can speak about with authority. (p. 19)

I need to emphasize that the expert was given both legitimacy and privilege since it was through the presence of the experts that knowing could *happen*. Knowing, based on the logical positivism's stance in mainstream psychology, needs to be well attuned and geared to techniques. Techniques and tools would serve as windows through which knowing happens. The expert is thus seen as always equipped with technical knowledge and jargons without which the truth of knowing would be imponderable.

Positivist way of knowing was associated with the promotion of the assumption that the available tools and techniques for the expert would be the protective factor for the subject of research as they were able to endorse the plausibility of research regardless of the political, social, cultural, and local factors which could affect the subject of research (see Bernal 1939; Hessen 1971; Nader 1996).

The Sovereignty of the Expert's Perspective and Its Implications

I submit that the technique-oriented way of living and its hegemony through the expert who possessed knowledge produced practical implications for the subject of research. It also prescribed the use of the right technique for dealing with human issues and problems. The righteousness of the right techniques was considered as the panacea for dealing with the practical aspects of life. Habermas (1975) challenges the logical positivist way of thinking and highlights the price that the modern society has paid for advancing technological consciousness. Habermas suggests that this has led to people's deprivation of reflexive and reflective thinking over their destiny and their divorce from a real contribution in fulfilling a responsible and creative role.

Habermas (1975) reiterates the implications of the modern life at the mercy of techniques and experts and demonstrates how knowing is forcibly contained and entrapped by the flux of techniques when he writes,

> Yet even a civilization that has been rendered scientific is not granted dispensation from practical questions: therefore a peculiar danger arises when the process of scientification transgresses the limit of reflection of a rationality confined to technological horizon. For then no attempt at all is made to attain a rational consensus on the part of citizens concerned with the practical control of their destiny. Its place is taken by the attempt to attain technical control over history by perfecting the administration of society, an attempt that is just as impractical as it is unhistorical. (p. 255)

In line with the emphasis on the salient role of the expert in deciding what can be known and how it can be known, the expert's status of privilege and legitimacy

ultimately needs to emanate from the sources of power. In critiquing the sources of power within mainstream psychology, Teo (2005) writes,

> Psychology has been transformed from a philosophical into a natural scientific discipline on the background of colonialism, slavery, and exploitation. Thus, it is not surprising that important pioneers of psychology assimilated or actively contributed to scientific racism. Paul Broca (1824-1880), who is celebrated in psychology for his location of speech loss (aphasia) in an area of the brain (known as Broca's area), was one of the leaders of scientific racism. He was convinced that non-European races were inferior in terms of intelligence, vigor and beauty (see Teo 2005). It is also remarkable that Broca gave up all standards of scientific inquiry when he "handled" research on human "races." At the beginning were his conclusions, which were followed by data collection and selective reports. Criteria were changed and abandoned when the results did not fit his original conclusions (see Gould 1996). He embraced "confirming" evidence and repressed disconfirming information. The pioneer of social psychology Gustave Le Bon (1841-1931), who divided, based on psychological criteria, humans into primitive, inferior, average, and superior races, suggested vehemently that races were physiologically and psychologically distinct, that races were different species, and that all members of a race shared an immutable race soul (see Teo 2005). (pp. 154–157)

I, therefore, stipulate that the search of the main stream psychology for universality and objectivity brought about a selective emphasis on the implementation of scientific methods of inquiry which highlighted that the path to finding the truth needs to be legitimized through the perspective of the expert within mainstream psychology. I argue that having discerned the unquestionability of the legitimacy of the expert's perspective within the main stream psychology, cross-cultural psychology has tried to apply the same paradigmatic analysis for understanding culture and cultural issues. Citing Laungani's objection against the unquestionability of mainstream psychology's perspective of the expert, Teo (2005) indicates that

> According to Laungani, neither experimental studies not psychometric instruments nor taxonomies provide knowledge of mental life's specificity in other cultures. Laungani even goes so far as to suggest that the experiment may be a "fruitless exercise" (p. 395) in other cultures, because people may not have been socialized into the meaning of psychological experiments. (p. 161)

Silencing and Marginalizing the Nonexpert's Voices

I underscore that the expert's perspective within logical positivism marginalizes or ignores the personal meanings that unfold themselves within the subcultures of a culture and merely emphasize the legitimacy of the expert's perspective. The salience of the role of the expert as the truth finder is associated with both cognitive and emotional impacts in that the subject of research who is exposed to the vociferousness of the voice of the expert may not take it upon himself or herself to voice his or her presence in the meanders of the hegemony of the expert's control. Sundararajan (2005) elucidates the absence of reflexivity for the expert-stricken subject of research when she indicates that

> But to the lay person, who is not in a position to evaluate the empirical findings of the experts, the authority of science can be as inhibiting to critical thinking as the Latin Bible in Medieval times. Indeed, moral maps are more transparent; when people talk about God and values, terms, which are obviously subjective hence, open to question. It is when values are bolstered by scientific facts that they become opaque and impervious to critical reflections. (p. 54)

Feminist researchers have argued that the domineering role of the researcher in psychology has led to the marginalization of the subject of research and ignored the role of power, privilege, voice, equality, and subjectivity in the process of research and its implications for the subject of research (see Fine 1992; Lather 1991; Maher 1999; Reinharz 1992).

The marginalization of the subjects of research and their voices has contributed to the creation of imbroglio in addressing the challenges and problems of both groups and individuals in local and international level. The following quote from Sheik Muhammad Hussain Fadlallah, the spiritual leader of Lebanese Hezbollah (as cited in Ginges et al. 2011) may exemplify the gaps between the array of the seemingly plausible data of the psychological observer as the expert and the reality of the actor:

> The problem with the discipline of psychology is that it attempts to study the phenomenon of martyrdom from the perspective of pragmatic vocabulary and laboratory results. They refuse to admit that certain things can be understood only thorough labor and pain. You can never be capable of appreciating freedom if you do not come to grips with enslavement. You can appreciate the crisis of the starved when you come to grips with the pangs of starvations. (Abu-Rabi 1996; p. 242)

The Position of Knowing and Its Ontological Superiority

I state that the underlying element of the expert's legitimacy in possessing the truth is ontologically embedded in the position of the knower as a superior hierarchical agent who is privileged in his or her status to access the truth.

Questioning the legitimacy of the perspective of the experts, Spariosu (2004) writes,

> Our global pundits, whether on the right or the left, seem to connect human progress primarily with material development. Most worldwide statistics and indicators are economic in nature, measuring human happiness by what an individual or a social group has, rather than by what they are. Thus, we have presently divided the world into "developed," underdeveloped," and "developing" societies. But if we truly wish to change our global paradigms, then we need to change the focus of our worldwide efforts from social and economic development to human self-development. From the standpoint of the latter, there are no developed or underdeveloped societies, but only developing ones. It is this kind of development that in the end will help us solve our practical problems, including world hunger, poverty, and violence, and will turn the earth into a welcoming and nurturing home for all of its inhabitants, human and nonhuman. (p. 5)

Beyond the Expert's Diagnosis

One can see how the expert's perspective has imposed inhibiting perspectives on a wide variety of issues. The 2003 president of the American Psychological Association, Robert J. Sternberg, reports that as a child he was informed that he had a low IQ. He was also told that as a college student he should not study psychology (Sternberg 1997). Leggo (1999), the Canadian poet, writer, researcher, and scholar was told that he could never be a writer.

One may see other examples of the expert's perspective on paralyzing the power of choices and imposing the impossibility of going beyond the expert's diagnosis. Julius Wilson (as cited in Rosenhan and Seligman 1995) was diagnosed as insane and was imprisoned in a psychiatric institution for 60 years. He was castrated before entering the hospital and was released at the age of 96. No evidence was ever found that he was insane and he was never convicted of any crime.

It is safe to say that the expert, in its logical positivist sense, was the only one who had access to the objective reality and therefore could control the reality of the object of research or the actor. This moves in line with the Cartesian philosophy which has a focus on the object and subject relationship with the object under the subjugation of the subject. The perspective of the expert, in its Western version, is inextricably tied to the promotion of the hegemony of the observer (the expert) as the one who understands and knows the truth.

Outside the Realm of Psychology

I argue that the research in humanities and social sciences is mainly influenced by the perspective of the observer, not the actor. This influence has trivialized modes of knowing that do not correspond with the political agendas of the perspective of the expert as an observer. The trend of empirical research in mainstream psychology and the funding of the projects may elucidate the political components within the perspective of the expert who is entitled to make the right decision. Pinxten (2009) discusses the components of research programs in the context of the observer as an expert and expounds that

> In a very general way I hold that scientific research is embedded in the sociopolitical and the cultural context of the West. The sociopolitical embeddedness implies that funding, promotion chances and even freedom of research will be codetermined by the political context of the researcher to a smaller or larger extent. In the case of the humanities this point has been illustrated by such volumes as Chomsky (1996) and Nader (2000), which show how the development of the Humanities in the 1960s and 1970s of the past century were influenced and sometimes curtailed by the military and political powers of the USA. In a similar vein, the explicit offer of research jobs by the CIA (in the USA) and by M15 (in the UK) from 2006 on through advertisements in the major anthropological journals gave rise to a debate

> in the discipline; it is clear that the freedom of research is not guaranteed in these circumstances, knowing that already in the past anthropological results have been (ab)used in warfare, without the awareness or consent of the researchers (Houtman 2006). (p. 192)

Expert's Domineering Position and Its Representational Role for the Other

Katz (1992) discusses how the discourse of the expert in the North American main stream inquiry is tied to an implicit confirmation of domination and power and represents the actor or the other through the lens of the very domination. The actor's or the other's representation, she argues, is reconstructed in the context of the domineering position. Katz (1992) indicates how otherness of the other is transformed through the paradigmatic and syntagmatic prescription of the discourse of power. Explicating the relationship between the researcher and the subject of research within the paradigm of the expert/scientific perspective, Katz (1992) notes that

> Building from feminist, postcolonial, and poststructural theories the question of subject position becomes central to a new ethnography in which difference is used productively to question the multiple forms of dominance, exploitation, and oppression. (p. 504)

In her recent work, *Counterclockwise*, Langer (2009) illustrates how the perspective of the expert can impede the process of understanding in that it limits our understanding. In other words, understanding does not *happen*, as the perspective of the expert declares its reign. Instead, the expert's perspective is only an imposition of a communicative form disguised in the appearance of understanding. The perspective of the expert is one among so many other existing perspectives but when the legitimacy is established for the single expert's perspective, other perspectives are nullified and marginalized. The perspective that there is an expert's perspective that needs to be legitimized is tantamount to generalizing one perspective to so many other possible perspectives.

Langer and Abelson's (1974) study "A patient by any other name," may exemplify how the legitimacy of one perspective known as expert can take control over other perspectives. According to the study, clinicians representing behavioral and analytic schools of thought (i.e., two groups of "experts") viewed a single videotaped interview between a man who had recently applied for a new job and one of the authors. One half of each group was told that the interviewee was a "job applicant," whereas the remaining half was told that he was a "patient." At the end of the videotape, all clinicians were asked to complete a questionnaire evaluating the interviewee. The interviewee was described as fairly well adjusted by the behavioral therapists regardless of the label supplied. This was not the case, however, for the more traditional therapists. When the interviewee was labeled "patient," he was described more significantly more disturbed than he was when he was labeled "job applicant."

The Expert's Position of Knowing in Psychology

Langer (2009) presents numerous experimental cases to demonstrate how the perspective of the expert with a detachment from the perspective of the actor would not only widen the gaps of misunderstanding but also prevent the possibility of disengagement from the dominant viewpoint. She elucidates how the expert's position of knowing in psychology would prevent the expert's search for authentic mode of knowing. Using the language and methods of experimental psychology and on the strength of empirically obtained data, Langer (2009) demonstrates how the sovereignty of knowing would dissipate the exploration of layers outside the established categories; she explicates how the entrapment within the bunkers of knowing would instigate a dogmatic pursuit of the limiting perspective of the experts. In elaborating this,

Langer (2009) indicates,

> In more than thirty years of research, I've discovered a very important truth about human psychology: certainty is a cruel mindset. It hardens our minds against possibility and closes them to the world we actually live in. When all is certain, there are no choices for us. If there is no doubt, there is no choice.
>
> When we are certain, we are blind to the uncertainties of the world whether we recognize it or not. It is uncertainty that we need to embrace, particularly about our health. If we do so, the payoff is that we create choices and the opportunity to exercise control over our lives. (pp. 24–25)

Langer's remark explains how mainstream psychology has failed to develop a rigorous understanding of the Other as the expert's perspective in mainstream positivist psychology within the Euro-American paradigms rarely explore the actor's perspective and its reference points. She indicates that it is the hegemony of the expert's perspective in the logical positivist-driven psychology that pays no attention to the meanings from the actor's perspective. The hegemony suggests that the Western psychologically constructed concepts can be well applied to everyone in the world; we just need to have the right tools at hand to have the right assessment. Interestingly enough, when there appears to be the signs of contradiction, contraposition, and disagreement on the part of the actor, the actor becomes a problem. The expert's perspective within mainstream positivist psychology has largely problematized the other whereas endorsing the legitimacy, priority, and superiority of the Western expert's perspective in dealing with the problem (see Bhatia 2002; Gould 1996; Grosse 1997; Teo 2005).

In highlighting the role of the expert's perspective in imposing the construction of mainstream Western paradigms, Said (1978) indicates,

> There has been so massive and calculatedly aggressive attack on the contemporary societies of the Arab and Muslim for their backwardness, lack of democracy, and abrogation of women's rights that we simply forget that such notions as modernity, enlightenment and democracy are by no means simple and agreed upon concepts that one wither does or does not find, like Easter eggs in the living-room. The breathtaking insouciance of jejune publicists who speak in the name of foreign policy and who have no living notion (or any knowledge at all) of the language of what real people actually speak has fabricated an arid

> landscape ready for American power to construct there an ersatz model of free market "democracy," without even a trace of doubt that such projects don't exist outside of Swift's Academy of Lagado. (p. xiv)

Discussing numerous examples of the expert's perspective within mainstream psychology and their implications for racism, oppression, crime, suffering, injustice, Teo (2005) writes,

> On the background of scientific racism it was not sufficient to state problems, but also to provide arguments and seemingly logical and empirical justifications for these negative assessments. Gobineau (1854-1966) had learned that native women in certain parts of Oceania who had become mothers by Europeans could no longer become pregnant by their native men. Based on this "evidence" Gobineau (1816-1882) concluded that civilizations that were based on racially distinct groups should never come together. Broca (1864) cited a medical argument to the effect that the large African penis coincided with the size of the African vagina. This meant that a white man could have sex with an African woman because intercourse would be easy and without any inconveniences for the African woman. However, sex between an African man and a white woman would make sex painful for the white woman. In addition, such a union often not lead to reproduction and thus should be avoided. (p. 174)

Hegemony of the Expert's Perspective/The Loss of Meanings and the Constriction of Choices for the Other

The relationship between the signifier and the signified in mainstream psychology holds the assumption that mainstream positive psychology can define, explain, and predict the signification by virtue of the universally accepted linear methods of thinking. I argue that linear methods of thinking only constitute one mode of thinking, and they cannot explain the wide variety of possible modes of thinking. What is concealed is the presence of meanings and intentions. If the reference points that tend to understand meanings are already preoccupied within certain domination of the signification, how could they ever help us explore the meanings? The reaction against the specific imposition of meaning within mainstream positivist psychology can be found in the works that demonstrate a challenge against the stability of meaning within one specific reference point (see, Derrida 1976; Gergen 1990; Lotringer 1996; Lyotard 1984; Wittgenstein 1968; Levy and Langer 1994; Merryfield 2009).

Examining the deficiencies of the expert's perspective and its implications for ignoring the meanings, Langer (1997) argues that incarceration within the expert's perspective would prevent us from exploring the meanings both in core and marginal levels. The focus on the signification from the expert's perspective would not allow us to revisit the reference point through which the expert's perspective is bound. Neither would it allow us to highlight or minimize fascicle of the experience of the observation. Calling for a mindful shift, Langer (1997) argues that

> An approach to problem solving based on traditional definitions of intelligence relies on the observer's capacity to use available data in constructing novel hypotheses that in turn reveal different perspectives on familiar questions. Those observers who have considerable

> familiarity with available data but have not yet become locked into a particular perspective are most likely to make conceptual contributions that advance our general understanding of an area of research. (pp. 123, 124)

I want to elucidate that once the expert's perspective turns out to be the prescription through which the reality is known and explored, the reality of the actor becomes tantamount to the reality of the perspective through which the actor has been defined. The definition, thus, blocks the possibility of listening to or attending to layers that may exist outside the expert's perspective. This would have huge implications for not only defining a culture, a community, or a person but also the choices through which the culture, community, or the person needs to be approached. Understanding, therefore, is constricted through the lenses of the expert's perspective.

I explicate that if the presentation of conversations are to hold the unquestionability of the expert's perspective and its reference points, conversations and dialogs would fail to detect the emergent meanings within the contextual frameworks of the actor's perspective. Going beyond the expert's perspective would then require both bravery and assertiveness; bravery for not being afraid of losing the expert's perspective and assertiveness for expressing the transformation of the experience of observation. I suggest that a mindful understanding requires the ontological experience of understanding. On the possibility of such a mindful-driven understanding, Gadamer (1988) writes,

> To reach an understanding with one's partner in a dialogue is not merely a matter of total self-expression and the successful assertion of one's own point of view, but a transformation into a communion, in which we do not remain what we were. (p. 341)

Studies by Osunde et al. (1996) indicate how the expert's perspective without understanding the actor's perspective would bring about clichés and stereotyped knowing that work against both knowing and understanding. Their study examined how preservice social studies teachers perceived Africa. In their study of 100 preservice teachers from the United States, Osunde et al. (1996) found that the majority of the concepts associated with Africa were nothing but tigers, disease, jungles, poor, deserts, and superstition. Osunde, Tlou, and Brown (as cited in Tucker 2009) indicate how the American preservice teachers' exposure to the expert's perspective prevented them from understanding the recondite layers of meaning about Africa. They indicate that

> Even though preservice teachers are exposed to an increasing amount of information on Africa through their college courses and seminars and even though the media now presents news on Africa with more frequency, the results of our data analysis showed that a majority of the preservice social studies teachers had the same misconceptions about Africa that their grandparents and parents had several decades ago. (p. 120)

I need to elucidate that the expert's perspective within mainstream psychology claims values through control, prediction, and the superiority of the expert over the actor. The claim is mainly indebted to the triumph of the natural sciences' discovery of the natural laws and control of the natural forces. Along these lines, the utilitarian

implications and consequences of the claim have given rise to a not often questioned hubris that is more overwhelmed by the combination of both profit and domination. The fear of losing the control and disposing the profits would politically tend to focus on the legitimacy of the expert's perspective. Knowing is, thus, legitimized as long as it is verified by methods. From the expert's perspective, we learn about the actor's perspective but we rarely understand that perspective. Understanding, according to Heidegger, is not just a matter of knowing and conducing communication with one another. It is a matter of being. Elaborating Heidegger's ontological presentation of understanding, Ricoeur (1982) explicates that "Instead of asking 'how do we know?,' it will be asked 'what is the mode of being of that being who exists only in understanding?'" (p. 54).

Mindfulness and Its Implications for Understanding the Actors' Perspective

Discussing the implications of such an understanding, Langer (2009) explains how mindfulness can facilitate the process of the understanding as an act. She presents mindfulness not as an epistemological position with a focus on cognition but as an ontological shift that would contribute to a transformation of being. It is through the transformation of being that the act of understanding would give rise to an exploration of the actor's perspective.

I argue that mindfulness in the Langerian version (being different from the other ramifications of mindfulness, which mainly come from the Buddhist traditions) propounds an understanding of the lived experiences and their associative, affective, and marginal meanings. It proposes a cooperative, collaborative, and mutual relationship between the researcher and the subject of the participant of research. This collaboration allows mindfulness about the role of power in the research process. Langerian mindfulness would open up the possibility of examining the praxis of power as discussed by Fine (1994). Without this examination, the subject of research would remain entangled in *the ought and ought not* of the researcher from the researcher's own perspective. Lamenting about the absence of understanding, Andreski (1972) notes that

> These experts have not been able to help; and that it cannot be ruled out that they be may be making things even worse by misguided therapists. If we saw that whenever a fire brigade comes the flames become even fiercer, we might well begin to wonder what it is that they are squirting, and whether they are not by any chance pouring oil on to the fire. (p. 28)

Langer et al. (1985), Langer (1997, 2005, 2009) demonstrates how mindfulness is questioning the underlying elements of our ontological assumptions and its corollary for the observer/expert in psychology. She iterates the presence of innovation in the collaborative and dialogical process of a proactive involvement to the effect that the observer welcomes the possibility of the new categories and new information through an ontological openness toward the actor. Mindfulness, to

Langer (2009), readily unfolds itself as the horizon of the unknown in the midst of the hegemony of schemas. This is contrary to mindlessness, where the load of schemas dictates the adoption of a single perspective. The monopoly of the observer/expert determines the reality, the needs, and the interests of the actor/the subject of the research.

In line with a similar understanding, Katz (1992) challenges the tyranny of the scientific expert and warns against the pseudo forms of reaching the other shrouded in the narrow-mindedness of the observer/expert. Katz (1992) reveals the masks of pretentiousness and notes that

> As Minh-ha (1989) suggests, this is not a project of getting "others" to speak as all knowing subjects of otherness (in the way that the white, upper class, male, Western subject has traditionally constructed himself as the unmarked universal subject), but rather to undermine this very construction and recognize that none of us are all knowing subjectivities, that "difference" and "identity" subvert one another (Minh-Ha 1986–87, p. 29). Recognizing our multiple identities and interdependence creates a ground that belongs to no one not even its creator (Minh-Ha 1989, p. 75). If we recognize the situatedness, and thus partiality, of all knowledges we can develop a politics that is empowering because it is not just about identity—a descriptive term—but about position. (p. 504)

Langer (2005) proposes the relationship between an ontological shift and the arrival of an innovative becoming to the effect that one's increase of mindfulness can contribute to the enhancement of one's level of becoming. Illustrating the absence of novelty in the abyss of mindlessness, Langer (2005) suggests that "when we live our lives mindlessly, we don't see, hear, taste, or experience much of what might turn lives verging on boredom into lives that are rich and exciting" (p. xvii).

Langer (2009) argues that such mindfulness of the expert/observer would entail an attempt to enhance the ontological level of the subject of research as it results in improving his or her well-being. This ontological turn happens in the heart of mindfulness and is associated with a radical transformation of consciousness since it affects the quality of the participants'/actors' being and helps them experience what Guba and Lincoln (1989, p. 248) call "ontological authenticity." Langer (2005) considers the essence of such an authenticity in both disengagement and engagement from the self. The observer/the expert needs to mindfully distance himself/herself from the overarching determinant of the self-habituated schema and explore a mindful engagement of the self through a personal renaissance.

Mindfulness, Context, Modes of Being, and Their Implications

Langer's (2009) mindfulness substantiates the necessity of understanding a dialogical relationship between the observer/the expert and the actor/the participant of research and demonstrates how that dialogism may result in a collaborative project of knowledge creation and knowledge management. Langer (2009) presents numerous empirical examples and cases and speaks the language of mainstream

psychology to corroborate the inadequacy of that language in addressing the reality of the actor.

Exemplifying the practical implications of a one-sided view intermingled with a mindless–expert perspective in the psychology of negotiations, Faure (2000, as cited in Kremenyuk 2002) focuses on joint venture negotiations in China and highlights how the absence of a mindful dialogism and the presence of a mindless-driven monologism has led to misunderstanding even in the midst of a perfunctory form of agreement.

Langerian mindfulness (2009) delineates the significant role of context in apprehending the relationship between the observer/expert and the actor/participant or subject of the research. Notwithstanding the use of language of mainstream and experimental psychology, Langer (2009) challenges the inability and failure of the laboratory and context-stripping language in mainstream psychology and argues how mindlessness toward context may confirm the mindless assumptions of the observer. Langer (2009) offers linkage to the works of Reinharz (1992) and McLellan (1999) as they demonstrate the significance of sociopolitical realities of the actor/subject of the research. A wide variety of international and trade negotiations have failed as a result of the observers' mindlessness of the cultural, socio, and political factors of the actor (see, Kremenyuk 2002).

Langer (2009) questions the authenticity of mainstream psychology's modes of knowing and the Western-oriented epistemology. Mindfulness, according to Langer (2009), results in acknowledgment of the uncertainty of one's position and one's being. One's position of knowing is inextricably tied to one's mode of being (see Ha'iri Yazdi 1992). Mindfulness, therefore, can open up the horizon of new modes of being. As the possibility of new modes of being are demonstrated through mindfulness, the psychologist as an observer is not merely circumscribed within the intrapersonal and intrapsychic exploration of the actor but he or she mindfully looks for the contextual variables that contribute to one's position, one's discomfort, one's distress, and one's connectedness to others and the world.

Teo (2005) demonstrates how a lack of understanding the contextual variables may impede the process of reaching the Other in numerous domains of human psychology. He argues how the extension of the Western mode of thinking in the realm of psychology and its branches including health psychology, cultural psychology, social psychology, and so on has widened the gap between the expert in psychology and the subject of research. He cites Sue and Zane (1995) and indicates how the mindlessness within psychological research has led to the negligence of minority groups.

Revisiting North American and Mainstream Psychology

I propound that the revision of the American psychology can be facilitated through the implementation of a genuine mindfulness where the possession of truth is not going to be at the monopoly of a specific culture. This will be associated with an

authentic listening to the voices other than those that serve the politically established agenda. This mindfulness will not prescribe the sphere of knowing based on the unquestionably accepted taxonomy of the institutional politics. Rather, it proposes an expansive realm of sensibility that can go beyond the centrality of knowledge in its Western-oriented version (see Fatemi 2008).

Langer conducts a critique of the positivist psychology and its authoritative claims for owning the truth. Langer's psychology of possibility enumerates the failures and flaws of the positivist-driven psychology and elaborates how mindless-driven psychology can turn out to be imposing in predictions and assessments. In stipulating the ramification of the critique against the positivist system, Langer (1997) argues that

> The very notion of intelligence may be clouded by a myth: the belief that being intelligent means knowing what is out there. Many theories of intelligence assume that there is an absolute reality out there, and the more intelligent the person, the greater his or her awareness of this reality. Great intelligence, in this view, implies an optimal fit between individual and environment. An alternative view, which is at the base of mindful research, is that individuals may always define their relation to their environment in several ways, essentially creating the reality that is out there. What is out there is shaped by how we view it. (p. 100)

Langer's 40-year long research discloses the price that we have paid for the tyrannical mindlessness of mainstream psychology and its unquestionable interventions in defining what is true. Her critique of the objectivity depicts the implications of our deep-seated submission to the ruled–governed world of scientism and indicates how the objective-laden psychology has failed to explore the contexts and their role in meaning making. Langer (1989, 2005, 2009) discusses how the position of knowing in the framework of objectivity has ignored realities of contexts in sundry facets of human life. She suggests that we were better off if we proceeded with the position of not knowing and indicates that

> Science, which prides itself on its objectivity, usually hides its choices from us even as it reports its findings. Many design choices that go into even our most rigorous scientific studies affect their outcomes. Greater awareness of these choices would make the findings less absolute and more useful to us. In fact, scientific research is reported in journals as probability statements, although textbooks and popular magazines often report the same results as absolute facts. This change is done to make the science easier for the nonscientists to understand. But what it does, instead, is deceive us by promoting an illusion of stability. That illusion is fostered by taking people out of the equation-what choices the researcher made in sitting up the experiment, on whom it was tested, and under what circumstances. (Langer 2005, p. 106)

Langer's emphasis on psychology's epistemological crises of objectivity and its dehumanizing implications seems to establish her being an heir to Kierkegaard. Kierkegaard's challenge of Hegelian rationality and the objectivity of Hegelians such as Martensen calls for revamping the foundations of knowing and knowledge as it does reveal the circumscribing pillars of objectivity in the discourse of rationality. In *Concluding Unscientific Postscript*, Kierkegaard's pseudonymous Johannes Climacus argues that objectivity cannot give rise to inwardness.

Kierkegaard claims that just as lack of objective truth can lead to madness, the "absence of inwardness is madness" too. Climacus illustrates a patient who has just escaped from a mental hospital and is worried about his recognition. He is worried that right after recognition, he will be sent back to the hospital so he thinks to himself:

> "What you need to do, then, is to convince everyone every one completely, by the objective truth of what you say, that all is well as far as your sanity is concerned." As he is walking along and pondering this, he sees a skittle ball lying on the ground. He picks it up and puts it in the tail of his coat. At every step he takes, this ball bumps him, if you please, on his bottom, and every time it bumps him he says, "Boom! The earth is round!" He arrives in the capital city and immediately visits one of his friends. He wants to convince him that he is not crazy and therefore walks back and forth, saying continually "Boom! The earth is round!" (Kierkegaard's 1992, p. 195)

For Langer, mainstream psychology has been mainly obsessed with the legitimacy of the observer's perspective known as the expert's perspective. Mainstream psychology has also marginalized and neglected the actor's perspective. The legitimacy of the expert's perspective, according to Langer, is largely due to psychology's ownership of objectivity. The possession of objectivity and its accessibility for positivist psychology is explained by virtue of the rigorous methodologies implemented in psychology. Langer's critique of the monopoly of the perspective in the eyes of the observer namely the expert produces sundry implications for numerous domains of human psychology. Langer (1975, 2005, 2009) claims that the actor's perspective can open up a new world of possibilities a world which can be easily concealed-to-oblivion through the hegemony of the observer's perspective.

A Mindful-Based Psychology

I propose that a mindful psychology, thus, questions the unquestionability of the expert's perspective and openly welcomes the possibility of knowing and understanding as it searches for innovative horizons of exploration for theoretical, methodological, and practical issues and problems. This requires not just an epistemic engagement with the abstract-oriented concepts but an ontological involvement with the praxis of the process of knowledge construction. I argue that mindfulness, thus, calls for a transformation of modes of being through a creative and assertive engagement with the social, political, and cultural constituents. This helps the observer embrace the possibility of looking from the perspective of the actor and looking for shared dialogical components while reflexively examining the intersubjectivity of his or her position in directing the dynamics of the perspective.

Langer's (2009) mindfulness discusses the impediments of an emancipative move toward a mindful project in psychology and examines how the implementation of mindfulness as a psychological and educational project can give rise to a psychology of possibility that is not obliged to concentrate in the camps of

mainstream psychology. The psychology of possibility elucidates the possibility of understanding outside the well-established paradigms of sensibility.

I also propose that the psychology of possibility and its quest for mindfulness may look closely into the incarcerating impacts of reductionist materialism in psychology and would realize the significance of reflecting on the philosophical psychology and its ontological and epistemological role in directing our methodological, theoretical, and practical issues. This may move in line with what Anscombe (as cited in Titus 2009) highlights as the absence of "an adequate philosophy of psychology" and expounds its vital role in discerning our ethical, etiological, and cultural positions and their implications for the theoretical, empirical, methodological, and practical work of psychology.

References

Abu-Rabi, I. M. (1996). *Intellectual origins of Islamic resurgence in the modern Arab world*. Albany, NY: State University.

Albee, G. W. (1981). Politics, power, prevention, and social change. In J. M. Joffee & G. W. Albee (Eds.), *Prevention through political action and social change* (pp. 5–25). Hanover, NH: University Press of New England.

Andreski, S. (1972). *Social sciences and sorcery*. London, England: Deutsch.

Arthur, A. Z. (1966). A decision-making approach to psychological assessment in the clinic. *Journal of Consulting Psychology, 30*, 433–438.

Bakan, D. (1966). *The duality of human existence.* Boston: Beacon Press.

Bakan, D. (1967). Idolatry in religion and science. In D. Bakan (Ed.), *On method: Toward a reconstruction of psychological investigation* (pp. 150–159). San Francisco: Jossey-Bass (Original work published 1961).

Bakan, D. (1996). The crisis in psychology. *Journal of Social Distress and the Homeless, 5*(4), 335–342.

Berg, B. L. (2009). *Qualitative research methods for the social sciences*. Boston, MA: Pearson.

Bernal, J. D. (1939). *The social function of science*. London, England: Routledge.

Bhatia, S. (2002). Orientalism in Euro-American and Indian psychology: Historical representations of "natives" in colonial and postcolonial contexts. *History of Psychology, 5*, 376–398.

Brigham, C. C. (1923). *A study of American intelligence.* Princeton, NJ: Prince.

Broca, P. (1864). *On the phenomena of hybridity in the genus homo.* London: Longman, Green, Longman, & Roberts, Paternoster Row.

Bronowski, J. (1956). *Science and human values*. London, England: Penguin.

Bryant, C. G. A. (1985). *Positivism in social theory and research*. London, England: Macmillan.

Chomsky, N. (Ed.). (1996). *The humanities in the USA during the cold war*. New York, NY: Simon & Schuster.

Clark, K. B. (1965). *Dark ghetto: Dilemmas of social power*. New York, NY: Harper Torch Books.

Code, H. (1995). How do we know? Questions of method in feminist practice. In S. Burt & L. Code (Eds.), *Changing methods: Feminists transforming practice* (pp. 13–43). Peterborough, England: Broadview Press.

Danziger, K. (1990). *Constructing the subject: Historical origins of psychological research*. Cambridge, England: Cambridge University Press.

Delby, R. G. A. (1996). *Uncertain knowledge*. London, England: Cambridge University Press.

Derrida, J. (1976). *Of grammatology*. Baltimore, MD: Johns Hopkins University Press.

Fatemi, S. M. (2008). Questioning the mastery of signs/celebrating the mystery of symbols. *Educational Insights, 12*(1), 1–17.
Faure, G. O. (2000). Negotiations to set up joint ventures in China. *International Negotiation, 5*(1), 157–189.
Feigl, H. (1969). The origin and spirit of logical positivism. In P. Achinstein & S. F. Baker (Eds.), *The legacy of logical positivism* (pp. 3–24). Baltimore, MD: Johns Hopkins Press.
Fine, M. (1992). *Disruptive voices: The possibilities of feminist research*. Ann Arbor: University of Michigan Press.
Fine, M. (1994). Dis-stance and other stances: Negotiations of power inside feminist research. In A. Gitlin (Ed.), *Power and method: Political activism and educational research* (pp. 13–35). New York, NY: Routledge.
Fine, M. (2002). Carolyn Sherif award address: The presence of an absence. *Psychology of Women Quarterly, 26*, 9–24.
Gadamer, H. G. (1988). *Truth and method*. New York, NY: Crossroad.
Gergen, K. J. (1990). Towards a postmodern psychology. *Humanistic Psychologist, 18*(1), 23–34.
Ginges, J., Atran, S., Sachdeva, A., & Medin, D. (2011). Psychology out of the laboratory: The challenge of violent extremism. *American Psychologist, 66*, 507–519.
Gould, S. J. (1996). *The mismeasure of man*. New York: Norton. (Revised and expanded).
Grosse, P. (1997). Psychologische Menschenführung und die deutsche Kolonialpolitik, 1900–1940 (Psychological guidance and German colonial politics, 1900–1940). In P. Mecheril & T. Teo (Eds.), *Psychologie und Rassismus (Psychology and racism)* (pp. 19–41). Reinbek, Germany: Rowohlt.
Grove, W. M., Zald, D. H., Lebow, B. S., Snitz, B. E., & Nelson, C. (2000). Clinical versus mechanical prediction: A meta-analysis. *Psychological Assessment, 12*, 19–30.
Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.
Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). London, England: Sage.
Habermas, J. (1972). *Knowledge and human interests* (J. J. Shapiro, Trans.). Boston, MA: Beacon Press. (Original work published 1968).
Habermas, J. (1975). *Legitimation crisis*. Boston, MA: Beacon Press. (Original work published 1973).
Ha'iri Yazdi, M. (1992). *The principles of epistemology in Islamic philosophy*. New York: State University of New York Press.
Hammond, K. R., Hursch, C. J., & Todd, F. J. (1964). Analyzing the components of clinical influence. *Psychological Review, 71*, 438–456.
Hare, R., & Secord, P. F. (1972). *The explanation of social behavior*. Oxford, England: Basil Blackwell.
Herda, E. A. (1999). *Research conversations and narrative. A critical hermeneutic orientation in participatory inquiry*. Santa Barbara, CA: Praeger.
Hessen, B. (1971). *The social and economic roots of Newton's Principia*. New York, NY: Howard Fertig.
Holton, G. (1993). *Science and anti-science*. London, England: Harvard University Press.
Holzkamp, K. (1991). Experience of self and scientific objectivity. In C. W. Tolman & W. Maiers (Eds.), *Critical psychology: Contributions to an historical science of the subject* (pp. 65–80). New York, NY: Cambridge University Press.
Horkheimer, M. (1992). Traditional and critical theory. In D. Ingram & J. SimonIngram (Eds.), *Critical theory: The essential readings* (pp. 239–254). New York, NY: Paragon House. (Original work published 1937)
Houtman, G. (2006). *Double or quits. Anthropology Today, 22*(6), 1–3.
Jaspers, K. (1997). *General psychopathology* (J. Hoenig & M. W. Hamilton, Trans.). Baltimore, MD: Johns Hopkins University Press.
Katz, C. (1992). All the world is staged: Intellectuals and the projects of ethnography. *Environment and Planning D: Society and Space, 10*, 495–510.

Kierkegaard, S. (1992). *Concluding unscientific postscript* (H. V. Hong & E. H. Hong, Trans.). Princeton, NJ: Princeton University Press. (Original work published 1846)
Kremenyuk, V. A. (Ed.). (2002). *International negotiation: Analysis, approaches, issues*. San Francisco, CA: Jossey-Bass.
Kuhn, T. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago, IL: University of Chicago Press.
Landesman, C. (1997). *An introduction to epistemology*. Oxford, England: Blackwell Science.
Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology, 32*, 311–328.
Langer, E. J. (2005). *On becoming an artist: Reinventing yourself through mindful creativity*. New York, NY: Ballantine Books.
Langer, E. J. (2009). *Counterclockwise: Mindful health and the power of possibility*. New York, NY: Ballantine Books.
Langer, E. J. (1989). *Mindfulness*. Reading, MA: Addison-Wesley.
Langer, E. J. (1997). *The power of mindful learning*. Reading, MA: Addison-Wesley.
Langer, E. J., & Abelson, R. P. (1974). A patient by any other name: Clinician group difference in labeling bias. *Journal of Consulting and Clinical Psychology, 42*, 4–9.
Langer, E. J., Bashner, R., & Chanowitz, B. (1985). Decreasing prejudice by increasing discrimination. *Journal of Personality and Social Psychology, 49*, 113–120.
Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interaction. *Journal of Personality and Social Psychology*, *36*(6), 635–642. doi:10.1037/00223514.36.6.635
Langer, E. J., Carson, S., & Shih, M. (in press). Sit still and pay attention? *Journal of Adult Development*.
Lanyon, R. I. (1972). Technological approach to the improvement of decision making in mental health services. *Journal of Consulting and Clinical Psychology, 39*, 43–48.
Lather, P. (1991). *Getting smart: Feminist research and pedagogy with/in the postmodern*. New York, NY: Routledge.
Latour, B. (2004). How to talk about the body? The normative dimension of science studies. *Body and Society, 10*, 205–229. doi:10.1177/1357034X04042943.
Leggo, C. (1999). *Teaching to wonder, responding to poetry in the secondary classroom*. Vancouver, British Columbia, Canada: Pacific Educational Press.
Levy, B., & Langer, E. (1994). Aging free from negative stereotypes: Successful memory in China and among the American deaf. *Journal of Personality and Social Psychology, 66*, 989–997.
Lotringer, S. (Ed.). (1996). *Foucault live: Michael Foucault: Collected interviews, 1961–1984* (L. Hochroth & J. Johnson, Trans.). New York, NY: Semiotext(e).
Lyotard, J.-F. (1984). *The postmodern condition: A report on knowledge* (G. Bennington & B. Massumi, Trans.). Minneapolis: University of Minnesota Press. (Original work published 1979).
Maher, M. (1999). Relationship-based change: A feminist qualitative research case. In M. Kopala & L. A. Suzuki (Eds.), *Using qualitative methods in psychology* (pp. 187–198). Thousand Oaks, CA: Sage.
McLellan, B. (1999). The prostitution of psychotherapy: A feminist critique. *British Journal of Guidance and Counseling, 27*, 325–337.
Merryfield, M. M. (2009). Moving the center of global education: From imperial world views that divide the world to double consciousness, contrapuntal pedagogy, hybridity, and cross-cultural competence. In J. L. Tucker (Eds.), *Visions in global education. The globalization of curriculum and pedagogy in teacher education and schools: Perspectives from Canada, Russia, and the United States* (pp. 219–223). New York, NY: Peter Lang.
Minh-Ha, T. T. (1986–1987). Difference: A Special Third World Women Issue. In She, the Inappropriate/ D Other, T. T. Minh-Ha (Ed.), *Discourse 8*.
Minh-Ha, T. T. (1989). *Woman, Native, Other: Writing Postcoloniality and Feminism.* Bloomington: Indiana University Press.

Nader, L. (Ed.). (1996). *Naked science: Anthropological inquiry into boundaries, power and knowledge*. New York, NY: Routledge.
Nader, L. (2000). *Naked science*. Oxford, England: Pergamon Press.
Nelson, G., & Prilleltensky, I. (2005). *Community psychology: In pursuit of liberation and wellbeing*. New York, NY: Palgrave Macmillan.
Osunde, E., Tlou, J., & Brown, N. (1996). Persisting and common stereotypes in U.S. students' knowledge of Africa: A study of pervasive social studies teachers. *Social Studies, 87*, 119–124.
Pinxten, R. (2009). Universalism and relativism of knowledge dissipate: The intercultural perspective. In N. Note (Ed.), *Worldviews and cultures: Philosophical reflections from an intercultural perspective* (pp. 191–200). Berlin, Germany: Springer Verlag.
Popper, K. (1959). *The logic of scientific discovery*. London, England: Hutchinson.
Reinharz, S. (1992). *Feminist methods in social science research*. New York, NY: Oxford University Press.
Ricoeur, P. (1982). *Hermeneutics and human sciences*. New York, NY: Cambridge University Press.
Rosenhan, D., & Seligman, M. E. P. (1995). *Abnormal psychology*. New York, NY: W. W. Norton.
Said, E. W. (1978). *Orientalism*. New York, NY: Random House.
Scruton, R. (2009). Confronting biology. In C. S. Titus (Ed.), *Philosophical psychology: Psychology, emotion and freedom* (pp. 68–107). Arlington, VA: Institute for the Psychological Sciences Press.
Slife, B. D., & Gnatt, E. E. (1999). Methodological pluralism: A framework for psychotherapy research. *Journal of Clinical Psychology, 55*, 1453–1465.
Spariosu, M. I. (2004). *Global intelligence and human development: Toward an ecology of global learning*. Cambridge: MIT Press.
Sternberg, R. J. (1997). *Successful intelligence*. New York: Plume.
Sue, S., & Zane, N. (1995). The role of culture and cultural techniques in psychotherapy: A critique and reformulation. In N. R. Goldberger & J. B. Veroff (Eds.), *The culture and psychology reader* (pp. 767–788). New York, NY: New York University Press.
Sundararajan, L. (2005). Happiness donut: A Confucian critique of positive psychology. *Journal of Theoretical and Philosophical Psychology, 25*, 35–60.
Teo, T. (2005). *The critique of psychology: From Kant to postcolonial theory*. New York, NY: Springer.
Titus, C. S. (Ed.). (2009). *Philosophical psychology: Psychology, emotions, and freedom*. Arlington, VA: Institute for the Psychological Sciences Press.
Tolman, C. W. (1994). *Psychology, society, and subjectivity: An introduction to German Critical Psychology*. London, England: Routledge.
Tucker, J. L. (2009). *Visions in global education: The globalization of curriculum and pedagogy in teacher education and schools: Perspectives from Canada, Russia, and the United States*. New York, NY: Peter Lang.
Walsh-Bowers, R. W. (2005). Expanding the terrain of constructing the subject. In M. C. Chung (Ed.), *Rediscovering the history of psychology: Essays inspired by the work of Kurt Danziger* (pp. 97–118). Dordrecht, Netherlands: Kluwer Academic.
Whaley, D. L., & Surratt, S. L. (1967). *Attitudes of science* (3rd ed.). Kalamazoo, MI: Behaviordelia.
Winston, A. (2001). Cause into function: Ernst Mach and the reconstruction of explanation in psychology. In C. D. Green, M. Shore & T. Teo (Eds.), *The transformation of psychology: Influences of 19th-century philosophy, technology, and natural science* (pp. 107–131). Washington, DC: American Psychological Association. doi:10.1037/10416-006
Wittgenstein, L. (1968). *Philosophical investigations* (G. E. M. Anscombe, Trans.) (3rd ed.). Oxford, England: Basil Blackwell. (Original work published 1953)
Ziman, J. M. (1991). *Reliable knowledge: An exploration of the grounds for belief in science*. Cambridge, England: Cambridge University Press.

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Dr. Sayyed Mohsen Fatemi (Ph.D., University of British Columbia, 2003, Post Doctorate, Harvard University, 2009–2013) has done his postdoctoral studies in the Department of Psychology at Harvard University in areas of social, clinical, health and cross-cultural psychology with a focus on Mindfulness. He is a Fellow in the Department of Psychology at Harvard University and works in areas of social and cross-cultural psychology. He is a frequently published author and poet with numerous conference presentations. In addition to teaching at Harvard, he has also taught at the University of Massachusetts in Boston, Boston Graduate School of Psychoanalysis, the University of Toronto, Western Washington University, and the University of British Columbia. Dr. Fatemi's present areas of research focus on the psychological implications of mindfulness for negotiations, media, cultural understanding and communication, creativity and leadership, persuasive and influencing skills, clinical and counseling psychology. He has been the keynote speaker of a number of international conferences and as a licensed and registered psychologist works on the implication of mindfulness for stress management, anxiety management, panic attack, interpersonal problems and personality disorders. He is also a popular guest of multiple television and radio programs and has consulted and coached corporate managers and executives on the application of mindfulness to enhance a broad array of vital business skills. His work includes the development of mindful intercultural understanding, negotiation, communication, conflict resolution, influencing, team building, presentation skills, creative decision making, and crisis management.

He brings mindfulness in his psychological and therapeutic interventions and has run training and coaching programs for clinicians, practitioners and corporate people in North America, Europe and overseas.

His publications appear in Springer, Wiley, Cambridge University Press and Oxford University Press and Journals such as APA's Journal of Theoretical and Philosophical Psychology.

He is presently working on the clinical implications of mindfulness for anxiety and stress management.

The Construct of Mindfulness Amidst and Along Conceptions of Rationality

Mihnea Moldoveanu

Is it rational to be mindful? Can one be more or less rationally mindful? Can one be more or less mindfully rational? In this short article I explore the contribution that mindfulness can make to modeling and theorizing about rationality—including rational choice and rational belief, or 'epistemic rationality'. The two streams of literature have in fact never met—a sign of the self-defeating isolation in which inquiry proceeds in social science. Had they in fact met, rational choice theory would have benefited from a formalization of the process by which mindful subjects actively draw distinctions that multiply choosable options and vastly expand their state spaces—of possible events or possible worlds. And, mindfulness research would have benefited from considering the kinds of questions that rational choice and rational belief theorists grapple with all the time, such as the optimality of distinction-drawing as a strategy for maximizing one's psychological or material welfare, and the optimal degree of 'broadening' of the space of choosable options.

Whatever might be deemed a viable answer to questions like 'Is it rational to be mindful?' will depend on precise characterizations of both 'mindfulness' and 'rationality', so, let us get to work:

Mindfulness Constructed so as to Uncover Its Relationship to Rationality

Mindfulness has been described both as a whole mind–body process of active engagement with the present, and, more selectively, as the process of active drawing of distinctions that increase live options for thinking, feeling and action (Langer 1989). Ellen Langer's work has singularly and diligently built up the penumbra of the

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term in Western psychology, guided by the hypothesis that the process of actively drawing novel-distinctions to parse and make sense of stimulus patterns that are 'routinely' interpreted according to well-established concepts and categories in itself increases the subject's engagement with the 'now' (Langer 1989)—the experienced instant—and has lasting positive effects to a person's psychological and physiological well-being. Self-reported instances of increased engagement and connection to the present, prompted by 'mindfulness-inducing primes and prompts' are correlated with interventions that encourage subjects to attend to difference, divergence, anomaly and 'noise'—as opposed to regularities, uniformities, and 'signal'—in a stimulus pattern; and, the success of mindfulness-inducing interventions in increasing task performance, subjective reports of well-being, and increased performance on non-task related measures such as health and distributed attention to anomalies and unexpected events have been painstakingly documented by Langer and her coworkers (see Table 1). Studies of mindfulness in the tradition of cognitive and social psychology (Langer 1989; Moldoveanu and Langer 1999; Langer and Moldoveanu 2000) posits mindfulness as a construct that distinguishes states of being involving active choices not only over behavior, but also over the subject's ongoing interpretation of sensory information and affective states, from states of being wherein the subject variously accepts, takes as given, is controlled by, and 'falls into' routinized, habituated or socially 'acceptable' behavioral, cognitive, perceptual, and emotional routines and habits.

The benefit to the mindful of mindful engagement arises from the unmediated feeling, perception or awareness of the multiplicity of the ways in which she can engage with the contents of her own mind, and the multiplicity of ways she can engage with the world. In this sense, causal ambiguity, complexity, ambivalence, ontological relativity, epistemic imperfectability, and the kind of radical indeterminism that arises in some interpretations of quantum mechanics are all sources of positive value to the mindful. But, they are high on the 'enemy list' of rational choice modelers, as they either assume or entail irresolvable uncertainty, ambiguity, and logical incoherence—quantities to be either excluded from consideration or minimized. The lexicographic hierarchy that regulates the desirability of lotteries (risk → uncertainty → ambiguity) which is assumed—and often prescribed—to govern the choices of expected value maximizers, entails that state-space-inflating processes (multiplying options by making new distinctions, which can also fog up previous distinctions and thus shift the boundaries between what is desirable and what is not) will have strictly negative value, and, by implication, that 'it is not rational to be mindful'. Forty years of work on the benefits of the 'act and process of expanding choosable option sets'—see Table 1—suggests there is something wrong with this picture. To figure out what the problem is we need to do a bit of conceptual sleuthing around both mindfulness and rational choice and rational belief models and theories.

Table 1 The mechanics and benefits of mindful-distinction-stimulating interventions by Ellen Langer and her coworkers 1974–2014

Area of impact	Study
Developmental	
Child Langer et al. (2012)	• Hypothesis: this study tested the hypothesis that mindfulness is (a) perceived and preferred by children; and (b) has positive effects on them • Results: the results indicate that children ages 9–12 not only preferred to interact with mindful adults, but devalued themselves following the mindless interaction, despite the fact that only positive content was discussed. (Implications of adults' mindless responding to children are discussed.) • Mindfulness-inducing intervention: Focusing attention on (mindful listening): – Inflection of voice – Body language – General state of being
Adult	• Hypothesis: while chronological age increases in a linear fashion from birth to death, decline, and debility are not inevitable features of human aging and may be reversible (or at least more malleable than we think) • Results: significant improvements induced through voluntary creative mental functioning – Study 1: More alert and active, happier, and healthier – Study 2: Improved memory, general alertness, and adjustment – Study 3: Increased perceived control, improved mental health, feelings of youthfulness • Mindfulness-inducing intervention: 1. Encouraging decision making 2. Increasing cognitive demandingness of environment 3. Active distinction-making/TM
Vocational	
Leadership Dunoon and Langer (2011–12)	• Hypothesis: when we exercise leadership mindfully, we recognize in particular instances—rather than just in the abstract—that the issues we are dealing with are likely to be contentious. These issues appear differently to those involved and there is no single path through to resolution • Results: through recognizing and embracing the uncertainty they face, leaders learn to control the situation and can find new ways to satisfy different perspectives within the system, enabling them to grow to develop a dynamic, not static, relationship with their environment • Mindfulness-inducing intervention: – Alertness to multiple perspectives – Active self-reappraisal – Using language descriptively rather than judgmentally – Favoring conditional over absolute language

(continued)

Table 1 (continued)

Area of impact	Study
Performance	• Hypothesis: actively creating novel distinctions and sonically portraying them during the performance of orchestral music is preferable to attempting to recreate a past performance • Results: attention to novel distinctions and subtle nuances appears to alter the process of creative ensemble performance leading to music that is more enjoyable to perform and hear • Mindfulness-inducing intervention: Individual attention to novel distinctions in performance
Educational	
Teaching (Langer (1993)	• Hypothesis: these studies compare the effects of a conditional versus absolute form of teaching • Results: presenting information in a conditional rather than absolute manner improves retention and creativity in subsequent use of information. Novelty makes concentration more attractive. Results indicate that confident but conditional instruction was most effective in provoking subsequent mindfulness • Mindfulness-inducing intervention: offering instruction that is: 1. Conditional: material taught with uncertainty 2. Confident: erect posture, eye contact, unhalting speech
Learning Langer and Brown (1992)	• Hypothesis: if education were viewed as a process that is never finished, it might enhance students' ability to perceive change as positive (representative of opportunity rather than dread) and make learning more fun • Results: by always spending time achieving/seeing/learning something, drawing distinctions, making connections, no moment is more valuable than another, promoting mindfulness • Mindfulness-inducing intervention: drawing distinctions on previously unappreciated events
Cognitive	
Multitasking	• Hypothesis: media multitasking will be improved through increasing mindful flexibility • Results: Improvement of media multitasking by increasing mindful flexibility. Higher trait mindfulness - > greater tolerance of ambiguity, complexity in thinking style, and positive affect and less negative affect, suggesting that individuals who tend to remain implicitly or explicitly aware of multiple perspectives of a situation are better at media multitasking • Mindfulness-inducing intervention: state mindfulness induction: encouraging novel distinction making and flexibility
Vision	• Hypothesis: these experiments show that vision can be improved by manipulating mindsets • Results: mindset manipulation can counteract physiological limits imposed on vision – Study 1: implicit mindsets stronger effect than explicit manipulation of motivation – Study 2: mindset regarding athleticism vs. sheer exercise arousal influences vision

(continued)

Table 1 (continued)

Area of impact	Study
	– Study 3: improved vision with reversed eye chart over traditional chart • Mindfulness-inducing intervention: 1. Experientially becoming a pilot in flight simulator 2. Viewing self as athlete over nonathlete 3. Reading reversed eye chart
Attention Levy et al. (2001)	• Hypothesis: the aim of this study was to examine whether a mindful intervention, based on noticing distinctions, could be used to improve the attention of older individuals • Results: distinction drawing also increased liking for the stimuli. The findings suggest that if older individuals want to increase attention and recall, rather than focus their attention, they may want to find ways to vary their attention • Mindfulness-inducing intervention: Noticing 3–5 distinctions
Memory Langer et al. (1979)	• Hypothesis: increasing the cognitive demand of environment and then varying the extent to which participants were motivated to attend to and remember these environmental factors can improve memory • Results: improvement on standard short-term memory tests, including probe recall and pattern recall, as well as in improvement in alertness, mental activity, and social adjustment • Mindfulness-inducing intervention: 1. Varying degree of reciprocal self-disclosure 2. Varying positive outcomes based on attention/memory
Social	
Stereotyping	• Hypothesis: this study assessed whether mindfulness can prevent automatic stereotype-activated behaviors related to the elderly • Results: the results show that greater mindfulness predicted greater walking speed, indicating a decrease in the effect of the automatic stereotype-activated behavior • Mindfulness-inducing intervention: active categorization (of photographs)
Marriage Burpee and Langer (2005)	• Hypothesis: this study investigated the relationships among mindfulness, marital satisfaction, and perceived spousal similarity • Results: significant relationship between mindfulness and marital satisfaction with no significant relationship between perceived spousal similarity and marital satisfaction. Implications for mindfulness in building and maintaining happy marital relationships and general well-being • Mindfulness-inducing intervention: – Drawing distinctions across situations – Acknowledging the existence of alternative perspectives – Recognizing that disadvantages may also be advantages
Uncertainty Langer and Piper (1987)	• Hypothesis: this study conducted three experiments to assess the hypothesis that mindlessness could be prevented with a simple linguistic variation

(continued)

Table 1 (continued)

Area of impact	Study
	• Results: significantly more of the subjects in the conditional group gave a creative response (learned to consider objects more flexibly: could be versus is). A conditional understanding of the world seems to prevent mindlessness • Mindfulness-inducing intervention: (Un)conditional—(un)familiar grouping
Divorce Newman and Langer (1981)	• Hypothesis: this study was conducted to explore the possible relationship between postdivorce adjustment and the attributions divorced women give for the failure of their marriages • Results: divorced women who attributed their divorces to interactive rather than personal factors were more active, more socially skilled, happier, more optimistic, and less likely to blame themselves rather than outside forces for failures • Mindfulness-inducing intervention: – Reattribution techniques: – Person attribution - > interactive attribution
Agency	• Hypothesis: this study was intended to determine whether the decline in health, alertness, and activity that generally occurs in the aged in nursing home settings could be slowed or reversed by choice and control manipulations • Results: improved alertness, active participation, and a general sense of well-being. Higher health and activity patterns, mood, and sociability, lower mortality rates • Mindfulness-inducing intervention: utilizing opportunities for control over ongoing daily events versus momentary, experimentally created tasks
Clinical	
Autoregulation Delizonna et al. (2009)	• Hypothesis: an experiment was conducted to test the hypothesis that mindful attention to change regarding heart rate (HR) would result in greater control over HR • Results: the results suggest that mindfulness, instantiated here as attention to variability, is a means to increasing control • Mindfulness-inducing intervention: daily monitoring requiring attention to HR fluctuations
Exercise Crum and Langer (2007)	• Hypothesis: this study tests whether the relationship between exercise and health is moderated by one's mindset • Results: the results suggest that mindfulness, instantiated here as attention to variability, is a means to increasing control • Mindfulness-inducing intervention: daily monitoring requiring attention to HR fluctuations
Addiction Margolis and Langer (1990)	• Hypothesis: we hypothesize that a mindful addict would consider more aspects of the addiction than a mindless addict and therefore be more likely to consider both negative and positive aspects of the addiction • Results: a mindful analysis may help the addict and therapist to devise treatments and behaviors that allow the addict to quit the addiction, but retain the positive benefits associated with the addiction

(continued)

Table 1 (continued)

Area of impact	Study
	• Mindfulness-inducing intervention: attention to positive effects - > quit mindfully versus negative effects- > stigma- > abstinence - > mindless relapse
Anxiety Langer et al. (1975)	• Hypothesis: this study hypothesized that a mindful coping device would decrease pre- and postoperative stress compared with simply supplying information and reassurance before surgery • Results: interventions resulted in reduced preoperative stress and postoperative pain relievers/sedatives vs. no effect from preparatory information • Mindfulness-inducing intervention: – Cognitive reappraisal of anxiety-producing event – Calming self-talk – Cognitive control through selective attention
Bias Langer and Abelson (1974)	• Hypothesis: labels affect clinicians' judgments • Results: interviewee was described as fairly well adjusted by behavioral therapists regardless of his label, but for more traditional (analytic) therapists, when labeled "patient," the interviewee was described as significantly more disturbed than he was when labeled "job applicant" • Mindfulness-inducing intervention: Labeling - > sharp differential effects

Mindfulness Expanded—Via Projection onto Different Planes of Being

Mindfulness is intimately connected with 'choicefulness' (Langer 1989; Moldoveanu and Langer 1999)—and specifically relates to the state in which the subject perceives to have a genuine choice as to the interpretation, schema, frame, representation, feeling, attentional focus, and representation that she can use to make sense of a 'raw' situation, a set of qualia or 'raw feels', or of a predicament—or to causally interact with her environment or with others. Choicefulness presupposes the availability of a genuine option set that allows for selection. Not all choices are created equal: choosing between interpreting an interpersonal slight as a mishap caused by low blood sugar or a wilful attempt to harm is different than a choice between flexing and extending your right bicep.

Models of rational choice normally assume intentionally produced physical behaviors to form the range of choosable actions or behavioral options, whereas researchers that have used the conceptual toolkit of 'mindfulness' and 'mindfulness interventions' generally focus on mental events, activities and entities as forming the space of choosable options. To facilitate a productive dialog between 'mindfulness' people and 'rational choice' people, let me separate out the space in which the choicefulness corresponding to mindful states and 'mindful attending' or tuning-in occurs into several different subspaces, or, planes of being, thus:

The Perceptual Plane

S can choose to attend to pre-interpreted stimuli (redness, pink after image, sharp smell) in various sequences that can be constructed via shifts of the gaze (scanning an image or a scene), movements of head and body (influencing the pattern of auditory, olfactory, or proprioceptive stimuli) or movements of the tongue (influencing the pattern of gustative stimuli); as well as by shifting the focus of attention to and from various senses, and various sensed stimuli.

The Representational Plane

S can choose linguistic (phrases, sentences) or non-linguistic representations of mental content (memory, fantasy) or perceptual content ('reality') that vary with respect to intended purpose (relational, structural, dynamic), explanatory nature (causal, functional, teleological), ontology (the specific objects of the representation taken to refer to 'real' entities), resolution (e.g., Google maps), and various measures of complexity (of which there at least 25 as of 2015—spanning the natural, social and information sciences).

The Inferential Plane

S can choose among different forms of inference (from particular to particular cases, particular to general cases, and general to particular cases), which in turn may rest on a choice among different forms of logic (inductive, deductive, abductive; two valued or three valued; definite or vague, or fuzzy).

The Physical Action (Behavioral) Plane

A subject, *S*, can be said to choose—and experience herself as choosing, among bodily motions that are trajectories of limb and organ in *4-D* space (3 spatial dimensions + 1 time dimension) and are constrained by the number and degrees of freedom of joints and muscles under voluntary control (e.g.,: wrists, forearms, hips, etc). *S* can 'choose' to sit, stand, squirm, blink, wink, and so forth, thus creating distinctions among various bodily positions and states. We can think of freely chosen novel sequences of bodily actions as 'drawing new distinctions', even though the phrase seems to point to the perceptual and cognitive spheres, as follows: a 'distinction' is perceived difference which can be induced not only by cognitively or perceptually 'setting apart' two or more entities, but also by

behaviourally creating new states of body and mind that are meaningfully different among them;

The Visceral/Affective Plane

S can choose from among different (psychologically) 'accessible' emotional states (anger, contempt, irony, rage) that are individually compatible with a given set of visceral sensations or internal physiological states (e.g., heightened temperature and heart rate), immediate stimulus patterns (e.g., the utterance by *T* of a word towards *S* which *S* believes *T* knows *S* will find insulting), and applicable social norms and conditions ('what will *U*, who has heard *T*, think, say or do if S were to evince the feeling of...?'

Projecting the Construct of Mindfulness on Different Planes, and Privileging Two of These Planes

'Mindfulness'—in its choicefulness-inducing, active distinction-drawing form—thus has intelligible projections onto each of these planes of being of a person. However, it not irrelevant that mindfulness-inducing interventions in the Western tradition stress 'drawing of new distinctions' of the perceptual and conceptual kind—such as those among shades of red in red stop lights or blood clots, or the color of the eyes of the same person in various moods, under various lightings and at various times of the day, among different 'kinds of anger' (hot versus 'red-hot' versus 'white-hot') that one might experience at different people during the course of a day, or among the different kinds of networks (i.e., types of connections linking nodes, e.g.,: trust, information flow, information sharing, friendship, interaction frequency) one can construct or recognize among people seated together at an executive table—which are properly the domain of high- and low-level perception as well as 'mental representation' and inference.

The prototypically 'mindful' state of relating to a percept or concept in terms of the **variation** of its *qualia* and diversity of its instantiations, respectively, entails an ability of the subject to 'switch' from a generality-and-similarity-seeking mode of perception, representation and inference, to an anomaly-and-difference-seeking mode, in which difference, divergence and dissimilarity among objects, persons, and events usually or habitually seen to conform to stable categories and lawlike generalizations are brought to the fore of conscious awareness. It makes sense therefore for mindfulness research to focus on the degrees of freedom and 'sources of choicefulness' that the subject has in these specific planes of being: for while it true that a subject can make distinctions *implicitly* by acting (e.g., by privileging a member of a group over others by controlling one's gaze) or by feeling (for instance, by allowing anger to boil up into rage in the presence of some people

but not others)—such examples often rest on antecedent choices to treat different people or different feelings differently according to context—which refers us back to the perceptual, representational and inferential planes.

Rational Choice Models Deconstructed and Expanded to Connect to Mindfulness Constructs

Contemporary rational choice models of human action or behavior (depending on whether they relate to a person as a subject or an object) postulate behaviors as outcomes of choices—irreversible behavioral commitments to a course of action—which are deterministic outcomes of *decisions*. Decisions are more complicated objects: they are either real or attributable *mental events* (again, depending on whether the model is used to describe matters from the standpoint of an actor or an observer) that form the basis for the commitments embodied in choice. In the 'expected value optimization' variant of rational choice models are themselves the outcome of a process that can be parsed into: the specification and enumeration of the payoffs or utilities associated with different actions conditional on various states of the world, the specification and enumeration of the probabilities or degrees of belief that the decision maker associates with the different states of the world, and the computation of the weighted sum of the probabilities of various states of the world and the utilities of the actions which could bring about those states.

The model is deceptively simple as an e*xplanandum* of human behavior: if you believe it is nearly certain it will rain today and you value not getting wet more than you do getting wet, and you have the option to choose between taking an umbrella and not taking an umbrella, then you will (and, *should*: the distinction will shortly become very important) take an umbrella along. That you will do that which you should do according to the mode is a prediction of the theory of rational choice that underlies it; and that you should do that which the model predicts a rational person *would* do is a prescription of the same theory—a compact explanatory and justificatory circle upon which we must work to create the conceptual space for the sort of 'active distinction-drawing' that characterizes mindful states of being.

To create this space, it helps to sleuth out the conceptual underpinning of rational choice models—the set of rules or axioms that a rational persons degrees of belief and utilities must obey if she to be deemed truly rational. Her utilities depend for their existence and uniqueness on the way in which her preferences behave: they must be complete, transitive, and acyclic (Moldoveanu 2011) as a logical prerequisite for the existence of an objective function that functions as a metric of value or utility.

This is the first point at which choicefulness-oriented, active novel-distinction drawing may come into the picture. Novel distinctions multiply objects and events: the recognition of subtle differences in shades of red creates (at least) two different 'reds'. If someone's preferences are 'complete' in the sense that they specify the choice someone would make between any two (and by extension any *N*) different choosable objects or options (or possible worlds), then they would need to take into

account any hitherto 'undrawn' distinctions that create new objects or states of the world—on pain of incoherence. In this case the mindful drawing of novel object-generating distinctions *should* only be exercised when it is expected by the chooser to generate an object or option or possible that is strictly preferred to any that is currently available.

Mindful distinction-drawing leading to new object and option-formation also comes into play when we consider the axiomatic condition rational choice models place on the *independence* of choices from irrelevant options. If, for instance, one prefers walking to work to driving and driving to taking a cab, then one should walk when there is a strike by all cab (and Ueber) drivers—all other things being equal. But of course the strike may reduce the number of cars on the street and make driving preferable to walking. The rational choice modeler will object that in this case the real value and cost of driving have not been taken into account from the beginning: had they been, no violation of the independence condition would result. Yet, there is no injunction the rational choice axioms that bids the decision maker to consider *all* information in the formation of the option set and the calculation of the value to her of all of the different options—whereas the basic premise of mindfulness-inducing interventions is that multiplying the perspectives under which a situation is seen or represented or interpreted will be strictly beneficial to the decision maker (in the case of the walk-drive-cab predicament, making the distinction between the state of the world in which there are no cabs around and the state of the world in which there are).

Rational choice models incorporating the maximization of subjective expected utility also rely on a grammar or structure of admissible beliefs of the decision maker—a structure that again can be interpreted as normative/prescriptive or descriptive depending upon the way we use the resulting models. Beliefs are represented as a set of events or states of the world that are either explicitly or indexically represented, and a set of numerical weights associated with them, which are governed by the axioms of probability theory, and include conditions such as additivity, finite sub-additivity, independence, identity, and completeness.

Mindful distinction-drawing comes into play right away at the level of the specification of the 'state set' of the probability space in which beliefs are specified. Making finer distinctions regarding either events (in the case of semantic state spaces) or the propositions that are true if and only if certain events come to pass (in the case of syntactic state spaces multiplies the state space of events, and allows for greater levels of choicefulness at the level of the representation of 'that which is the case'. The 'normal'—e.g. Bayesian, inductive—kinematics of the belief space of the decision maker in response to new information is at a loss to accommodate the process by which new 'data' (or, implicit or explicit representations of events) multiply the number of possible or admissible state space (the space of possible events): the spread or entropy of the 'rational inductivist' is meant to decrease and narrow, not increase or broaden, as a result of new information.

Once again, there is no 'epistemic objective function' within rational choice models [other than starting out with the priori probabilities that best represent a state of maximal ignorance, which for some situations may be maximal entropy (Jaynes

2001)] that guides the kinematics of the 'belief function' that the decision maker should follow in the direction of the 'increasing spread of possibility' that mindfulness interventions point to. (In fact the two strands of thinking take us into precisely different directions on this specific point: by separating sharply between mental behaviors and physical behaviors and between beliefs and desires, rational choice models seem to advocate for a sort of 'rational mindlessness' in the pursuit of decisions, or to rule out the kind of state space expansion that comes from mindful distinction drawing as irrational.

This sort of difficulty can only be addressed by substantively modifying a core modeling assumption of the rational choice framework—which is the demarcation between mental and physical behavior. As Thomas Schelling has pointed out, whatever we end up consuming or enjoying—whatever ends up forming the argument of the utility function of rational choice models—is something that happens 'in the mind'. The representations of events, the representations of objects, and the representation of the choosable options that represent the 'lotteries' of rational choice models are all mental objects. The process of deciding—'intuitively' or by the algorithmic weighting of probabilities of outcomes with the payoffs of these outcomes—is just as much a mental process as that by which one draws new distinctions and forms new objects and events. If we bring the rational choice model 'into the mind' of the decision maker and we take into consideration her 'mental behavior' as susceptible to maximization-oriented explanations, then we can engineer a genuine dialog between the two strands of inquiry, uneasy as that dialog might turn out to be. We see, for instance, that state space expansion—via mindful drawing of novel distinctions—and state space contraction—via the reduction of the informational weight we attach to that which seems 'unlikely'—are mental choices that could very much be subject to the same maximizing framework as that which has populated economics and decision theory textbooks for over a century. 'Novel distinctions' create 'new constructs', or entities—as we might expect. To wit:

Mindful Rationality: Doing Better by 'Seeing' (Believing, Wanting, Choosing Among) More Options (for Believing, Wanting, and Seeing)

First, how should be incorporate the empirically validated benefits of mindful distinction drawing itself? Rational choice models are famously 'end-statist' in their modeling commitments: what matters (or, 'should matter' to the normative user) to the decision maker is only the **end state or the outcome** of his or her choices and subsequent states of affairs. The nature and value of the **process** by which the decision is made by inference does not 'count' into the calculus of utilities on which the decision is made, and which determines the 'rationality' of the decision maker.

But evidence for both higher performance and greater levels of well-being arising from the distinction-drawing that results from conceptual and perceptual

transformations and shifts seems clear and difficult to controvert. Let us make a distinction—and thereby introduce a new entity—to deal with this difficulty: we will specify 'mindful rationality' to specifically unpacking and accounting for the process by which mindful distinction drawing can enhance the overall well-being of the decision maker, even as it has no or even negative impact on the net present expected value of the outcome of her choice. 'Mindful rational choice' models, therefore, will explore the incorporation of an 'exploration value variable' in the specification of their objective functions, one whose value **increases**—rather than decreasing—with the spread of the state space that results from the active drawing of distinctions, precisely on account of the spreading property.

What could the 'mindfully rational decision maker's objective function' look like? Well, it will range not only over the specifically anticipated outcomes of her choice (or, the decision maker's subjective experience of these outcomes), but, additionally, over the rate of emergence and cardinality of the number of choosable options (actions, behaviors), alternative states of the world that comprise the state space of the decision maker's beliefs, and the number of different or alternative state spaces—or, ontologies—that individually support the same base of 'facts' or 'propositions' that the decision maker believes to be true. Both 'cardinality' and 'emergence rate' are important components of the value function: they give us both outcome and process measures for the 'active distinction-drawing' that characterizes mindful states.

Two Objections, Answered

The picture may look to many to be too good to be true. Upon reflection, some may formulate their difficulties in one or both of the following two ways.

Objection 1 "But wait!"—one might say: "Is it not the case that, just as there is empirical evidence for mindfulness-inducing interventions leading to significant benefits for individuals, there is an equally imposing gamut of evidence for individuals' aversion to risk, uncertainty, ambiguity—precisely the sort of variables that are wont to increase with the multiplication of choosable options? And, is there not also specific evidence that shows humans find it more rather than less difficult to make decisions when the number of choosable options increases rather than decreasing? The answer to both questions is 'yes', but the inference that these findings negate the positive value that one places on the active multiplication of entities in decision models is false. The aforementioned 'gamut' of empirical evidence is gathered in experimental and empirical settings in which the components of the subjects' utility functions are (a) determined by the experimented (or postulated by the empiricist)—not shaped by the subject; (b) identical with the 'experimental score' assigned to the (forced decision or forced choice) task the subject is asked to engage in (or, generally, 'how well' the subject performed the decision task) and (c) constrained by the specific parameters and variables of the decision or choice task (which are specifically *not* under any influence from the experimental

subject). While it is conceivable—and even desirable—that novel methods for imaging the states and dynamics of the brain and autonomic nervous systems of people can reveal a lot about the 'marginal disutilities' of such experimental paradigms, the central point that can be made right away is that such experimental paradigms seem designed to preclude or foreclose people's options to significantly expand the space of behaviourally relevant entities and associated variables, which they can do in ways ranging from the creative reinterpretation of the decision task description, to the generation of alternative interpretations of the relationship between subject and experimenter that are off-script, to the revaluation of task and decision-specific outcomes (such as, for instance, experiencing the utility of positive ironic detachment in the case of 'negative outcomes'; and the self-contempt for one's own lemming-like conformity in the case of 'negative' outcomes).

Objection 2 'But wait!'—one might say again—'are you really confident that the kinds of novel entities generated by the sort of active distinction drawings that you think humans could and even should value are sufficiently *numerous founded* or *meaningful*? It could make sense to think about various incommensurable ways of describing an inner city mass uprising (using causal, functional or teleological models that specify the brain–body states of the participants, the social function of the gathering and the individual incentives of each participant, respectively—and thus presenting ways of 'seeing' them differently and creating different state spaces for decision models), but describing a chair as a collection of 10^{10} chairs, embedded into one another, each one molecule-deep layer shorter, shallower and narrower than the next—seems absurd.'

There are two answers to this objection: the first is that some state space and payoff space inflations will seem absurd specifically to one who evaluates them through the end-statist prism of 'will they help X make a better decision?'—for instance, by sharpening her subjective probability distribution function over states of the world or by profitably expanding her state space *so she makes a better decision by the criteria she has started out with*. But we made three moves that jointly could well justify inflationary approaches to state spaces even if the 'new states' do not make a net positive contribution to the decision maker's standard utility function: we made *mental events* and states and sequences of mental events and states plausible arguments of utility functions; we made mental behavior and mental operations plausible *choosable options*—alongside 'exclusively physical' (the term does not really make sense) behaviors; and we made the rate at which new distinctions and associated concepts and percept arise in the mind of the decision maker and the number of newly generated entities a net positive part of her utility or objective function. 'Speculative inflation' need not generate 'meaningful' or 'well-founded' entities for it to be 'useful'—and therefore 'rationally' pursued.

The second answer is in fact a challenge to the objector. It proceeds as follows: 'You (the objector) seem to be speaking from the position of someone who has already 'gotten' (constructed or discovered) the right ontology for decision acts and scenarios, and the right language system for representing the 'predicament' of the decision maker (or, for that matter of her observer) and the right, or, a unique,

mapping from percepts to concepts to sentential structures that 'represent what is the case'.'

Choicefulness as a property of a mental state and process is induced by the radical indeterminacy of two mappings: one from the set of raw feels of perception onto the sent of propositional structures we use to speak of 'facts', and one from the objects and entities we take to be 'real' onto the set of propositions we hold to be true. If it were the case that perceptual, categorial and representational entities are *under-determined* by the collective set of stimuli we provide to nerve endings, then 'mindful choice' among aspects of representations, inferences and perceptions would make functional sense from the point of view of an organism trying to adapt and survive by perceiving or conceptualizing or speaking about an 'it': 'others' could see this 'it' very differently, in which case it makes sense to see 'it' in more than one possible way. Moreover, these indeterminacies are implicit in the way we have set up the links between words and concepts and 'the world'—to wit.

Relativity of an Ontology with Respect to a Propositional 'Fact Base' Putnam (1981)

One source of 'mental options' that ground the possibility of genuine mental choicefulness arises from the choice of representation language in which 'facts' are articulated: it is possible, in particular, for any set F of facts articulated in a language, to construct a different language that leaves the truth value of these facts unchanged (Putnam 1981) Let L be the language with (n-adic) predicates F_1, F_2,..., F_k (not necessarily monadic) and I represent an interpretation (an assignment of an intension to every predicate of L). Then if I is nontrivial in the sense that at least one predicate has an extension which is neither empty nor universal in at least one possible world, there exists a second interpretation J which disagrees with I, but which makes the same sentences true in every possible world as I does. The proof proceeds as follows: Let W_1, W_2, …, be a well-ordering of all possible worlds, and U_i be the set of possible individuals which exist in the world W_i. Let R_{ij} be the set which is the extension of the predicate F_i in the possible world W_j according to I (if F_{ij} is n-nadic, then R_{ij} will be the set of n_i-tuples, where n_i is the number of argument places of F_i). The structure $\langle U_j; R_{ij}(i = 1, 2, \ldots, k)\rangle$ is the 'intended model' of L in the world W_j relative to I (i.e. U_j is the universe of discourse of L in the world W_j, and (for i = 1, 2, …, k) $\mathrm{R_{ij}}$ is the extension of the predicate F_i in W_j. If at least one predicate, say, F_u, has an extension R_{uj} which is neither empty nor all of U_j, select a permutation P_j of U_j such that $P_j(R_{uj}) \neq R_{uj}$. Otherwise, let P_j be the identity. Since P_j is a permutation, the structure $\langle U_j; P_j(R_{ij})(i = 1, 2, \ldots, k)\rangle$ is isomorphic to $\langle U_j; R_{ij}(i = 1, 2, \ldots, k)\rangle$ and so is a model for the same sentences of L (i.e., for the sentences of L which are true under I in W_j). Let J be the interpretation of L which assigns to the predicate F_1(i = 1, 2, ..., k) the following intension: the function $f_i(W)$ whose value at any possible world W_j is $P_j(R_{ij})$. In

other words, the extension of F_i in each W_j under the interpretation J is defined to be $P_j(R_{ij})$. Since $\langle U_j; P_j(R_{ij})(i = 1, 2, \ldots, k)\rangle$ is a model for the same set of sentences as structure $\langle U_j; R_{ij}(i = 1, 2, \ldots, k)\rangle$ (by the isomorphism), the same sentences are true in each possible world under J as under I, and J differs from I in every world in which at least one predicate has a nontrivial extension.

The Indeterminacy of Inductive Projection: Time-Scrambled Predicates

(Goodman 1954) Projection from a finite set of known instances to either an unknown instance or an infinite set of instances is under-determinate because the mind that projects has options arising from the construction of the predicates it is attempting to project (Goodman 1954). In the standard example, grue emeralds are emeralds that are green on or before time t in the future and blue thereafter. Bleen emeralds are emeralds that are blue on or before time t in the future and green thereafter. Therefore, if an emerald is observed and found to be blue at $T < t$, then it will confirm both the hypothesis 'this emerald is blue' and the hypothesis 'this emerald is bleen'. If an emerald is observed and found to be green at $T < t$, then it will confirm both the hypothesis 'this emerald is green' and the hypothesis 'this emerald is grue'. The projecting mind therefore has a genuine choice that arises between blue-green 'co-ordinates' and grue-bleen 'coordinates'. One might object that 'grue' and 'bleen' are pathological predicates, because they link the name of a predicate to the time of an observation, whereas 'properly' projective predicates have no intrinsic temporal structure. Leaving aside the prevalence of predicates that explicitly incorporate temporal dynamics in their constitutive definitions ('bipolar'), the objection does not resolve the genuine relativity of projectible predicates: from the perspective of someone who is used to the language of Grue and bleen, it is ***blue*** and ***green*** that impermissibly couple time into the definition of a predicate, as follows: Green emeralds are emeralds that are grue on or before time t and bleen thereafter; blue emeralds are emeralds that are bleen on or before time t and grue thereafter.

Rational Mindfulness: 'Seeing' More (Broadly and Deeply) by Optimizing 'Seeing'

The first route bringing mindfulness-talk in dialog with rationality-talk harnesses rationality to mindfulness by making the benefit of mindful states of being part of the objective function of the rational decision maker and uncovering the indeterminacies that lie hidden in the state space formalism that rational choice models rely on. The second route harnesses mindfulness to rational choice models by exploring ways in which the state space expansion that mindfulness-inducing manipulations

bring about can enhance the performance of 'rational decision makers' in ecologically plausible settings.

Jaynes (2001) has already shown us how 'maximum entropy-priors' can help solve the technical problem of choosing degrees of belief so as to reflect states of maximal ignorance about the outcome of choice how maximal entropy methods can even be deployed to help us assign degrees of ignorance to stochastic variables we know to be deterministically related (since we cannot be simultaneously equally ignorant of the value of X and the value of $Z = 1/X$). But it has not addressed the problem of generating the maximally open-ended or 'ignorant' state spaces that allow for maximal openness or adaptivity of the decision maker not only to the occurrence of all the events that she deems possible or conceivable, but to expanding her own horizon of **conceivability** and her range of interpretive schemata for the interpretation of the outcomes of her decisions. Moreover, Bayesian models of epistemic rationality normally assume that once a state space has been 'settled upon' by the decision maker—or even more tenuously, by her observer—subsequent 'data' can (or 'should') only be used to 'fix belief'—not to broaden the space of possible states of the world and of the subject.

The multiplication of viable epistemic states (states of mind that seek to represent both what is possible and how likely what is possible is to occur) that mindful distinction-drawing enables. It functions at three different levels—prior, present-perfect and posterior, relative to a decision model and associated decision process as follows:

Prior: drawing new distinctions to make sense of immediate predicaments and situations—both via the low-level control of sensory actuators ('gaze control') and the control of high level vision, attention and the representational languages and 'alphabets' on which representation lies extends the 'envelope of conceivability' of outcomes for the decision agent and increases the adaptiveness of the decision algorithms that she uses to guide her subsequent actions;

Present-perfect. Augmenting the entropy-minimizing objective function that regulates Bayesian kinematics of epistemic states with an entropy-increasing term that uses new data to generate alternative representations, explanations and justifications similarly increases the adaptiveness of the decision process while at the same time acknowledging the orientation of the decision maker's mind and body toward some action or choice;

Posterior: *the* '*Happiness Machine*'. Active distinction-drawing at the level of the nature and interpretation of events allows the decision maker to 're-value' outcomes by reinterpreting what they mean to her in light of an expanded repertoire of concepts—including self-concepts—that together supply positive utility 'no matter what' the outcome may be. The work of Langer and her coworkers on the mindful reframing of outcomes thus predates and subsumes subsequent work on the imperfection of 'affective forecasting' and the structure of a 'psychological immune system' that preserves positive affect in the face of failure—and in fact elucidates the cognitive structure of such an immune system.

Concluding Words

The work of cognitive psychologists such as Simon, Kahneman, and Tversky have made significant contributions to the very large stream of thinking guided by rational choice and rational belief models and schemata. Nevertheless, their work is more limited in scope than the work on mindful concept and percept formation and state space expansion of Langer and her coworkers. The Westernized, distinction-drawing formulation of 'mindfulness' which Ellen Langer's work has spawned and stimulated stands to make an even greater contribution to rational choice modeling—provided that the conceptual toolkit of rational choice models is itself duly expanded. I have given a few reasons for why it should be—and suggested ways in which this expansion can proceed.

References

Burpee, L. C., & Langer, E. J. (2005). Mindfulness and marital satisfaction. *Journal of Adult Development, 12*(1), 43–51.

Crum, A. J., & Langer, E. J. (2007). Mind-set matters exercise and the placebo effect. *Psychological Science, 18*(2), 165–171.

Delizonna, L. L., Williams, R. P., & Langer, E. J. (2009). The effect of mindfulness on heart rate control. *Journal of Adult Development, 16*(2), 61–65.

Dunoon, D., & Langer, E. (2011). Mindfulness and leadership: Opening up to possibilities. *Integral Leadership Review*, *11*(5).

Dunoon, D., & Langer, E. (2012). Mindful leadership communication: Three keys for action. *Training & Development, 39*(3), 12.

Goodman, N. (1954), *Fact, Fiction and Forecast*. Cambridge: Harvard University Press.

Jaynes, E. T. (2001). *Probability theory: The logic of science*. Cambridge: Cambridge University Press.

Langer, E. J. (1989). *Mindfulness*. Waltham: Addison-Wesley.

Langer, E. J. (1993). A mindful education. *Educational Psychologist, 28*(1), 43–50.

Langer, E. J., & Abelson, R. P. (1974). A patient by any other name…: Clinician group difference in labeling bias. *Journal of Consulting and Clinical Psychology, 42*(1), 4.

Langer, E. J., Beck, P., Winman, C., Rodin, J., & Spitzer, L. (1979). Environmental determinants of memory improvement in late adulthood. *Journal of Personality and Social Psychology, 37* (11), 2003.

Langer, E. J., & Brown, J. P. (1992). Mindful learning: A world without losers. *New Directions for Adult and Continuing Education*, *1992*(53), 11–20.

Langer, E. J., Cohen, M., & Djikic, M. (2012). Mindfulness as a psychological attractor: The effect on children. *Journal of Applied Social Psychology, 42*, 1114–1122.

Langer, E. J., Janis, I. L., & Wolfer, J. A. (1975). Reduction of psychological stress in surgical patients. *Journal of Experimental Social Psychology, 11*(2), 155–165.

Langer, E. J., & Moldoveanu, M. (2000). The construct of mindfulness. *Journal of social issues, 56*(1), 1–9.

Langer, E. J., & Piper, A. I. (1987). The prevention of mindlessness. *Journal of Personality and Social Psychology, 53*(2), 280.

Levy, B. R., Jennings, P., & Langer, E. J. (2001). Improving attention in old age. *Journal of Adult Development, 8*(3), 189–192.

Margolis, J., & Langer, E. (1990). An analysis of addictions from a mindful/mindless perspective. *Psychology of Addictive Behaviors, 4*(2), 107.
Moldoveanu, M. (2011). *Inside man: The discipline of modeling human ways of being*. Stanford University Press.
Moldoveanu, M. C., & Langer, E. J. (1999). Mindfulness, in Runco, In M. Pritzker & S. A. Pritzker (Eds.), *Encyclopedia of creativity*. New York: Academic Press.
Newman, H. M., & Langer, E. J. (1981). Post-divorce adaptation and the attribution of responsibility. *Sex Roles, 7*(3), 223–232.
Putnam, H. (1981). Reason, truth and history, Cambridge: Harvard University Press.

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On the Way to Mindfulness: How a Focus on Outcomes (Even Good Outcomes) Prevents Good Outcomes

Maja Djikic

Introduction

Mindfulness, a novel distinction-making process in which a person does not act on the world from old and outdated categories, and instead stays in contact with ever-changing nature of reality (Langer 1989; Langer and Abelson 1972; Langer et al. 1978), is good for us (Langer and Modoveanu 2000). To start with, it is good for our health. Research shows mindfulness increases longevity among the elderly (Alexander et al. 1989; Langer et al. 1984), it decreases alcoholism, and it reduces arthritic pain (Langer 1997). It is also good for our cognitive functioning, since it improves attention (Carson et al. 2001; Levy et al. 2001), memory (Langer 1997), and creativity (Langer and Piper 1987). Given these cognitive effects, it is no surprise that it produces improvements in work productivity, while at the same time reducing burnout (Langer et al. 1988; Park 1990). Given such a wealth of remarkably positive outcomes, one cannot help but wonder why people are not more mindful. If mindfulness were a pill, would we not all be taking it? In short, what are some of the obstacles to mindfulness that prevents us from enjoying its beneficent effects, and what may be the path to overcoming them?.

Langer herself addressed these questions both from micro- and macro- perspectives. From the micro-perspective, there are a plentitude of means through which one may prevent mindlessness or promote mindfulness. Langer and Piper (1987), for example, showed that one could prevent mindlessness through a simple linguistic intervention. They introduced new objects by presenting them conditionally (this may be an 'x') rather than unconditionally (this is 'x'), thus increasing mindfulness, and with it participants' creativity. There is a plentitude of such simple interventions (varying perspective, increasing awareness of choices, introducing

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decision making, increased personal responsibility, etc.) that work, and yet are underutilized. From the macro-perspective, Langer (1983) argued that one reason people do not change is because being mindful is incompatible with the framework of stability and lack of ambiguity which brings comfort and a feeling of safety. This can be also seen as an aversion to the possibility of dysregulating one's emotional and personality system due to the perception of potentially unexpected or negative perceptions about the self or the environment (Djikic 2014). The second meta-reason of pervasive mindlessness, according to Langer (1983), could be apparent rewards inherent in maintaining old categories, and acting in the world as if they were still current. For example, a person happy with their marriage might ignore evidence that their marital partner is unhappy in an attempt to maintain a situation that is seen as self-benefiting. Mindlessness becomes a mean through which particular habitually obtained outcomes are habitually maintained. These motivational obstacles may thus interfere and prevent interest in, and implementation of, simple techniques through which one could reach a state of mindfulness.

To think of human beings (and institutions which they inhabit) generally as inert, passive, and fearful of negative perceptions and change may be accurate, but it does not shine a guiding light to the particular human being who is attempting to throw off the yoke of mindlessness. For that we need to supplement what is already known with a further analysis of motivational conflicts, which results in practical steps through which one can overcome what appears to be mindless inertia, but what I will later suggest is a tension between opposing motivational forces. But to better understand that tension, it is important to discuss the cognitive center of the field on which the motivational war is being waged: perceived control.

To Control or not Control…

Langer (1983), in her book, *The Psychology of Control,* showed how a sense of perceived control can have remarkable effects on one's outcomes. In this work, Langer (1983) presented experimental work showing that people are so motivated to make causal judgments and see themselves as causal agents (even in games of chance), that a single cue will suffice to make that attribution. Furthermore, she showed how negative or limiting labels, particularly ones which imply one is passive or has no sense of control, can have powerful negative effects on one's own performance and on perception and subsequent treatment by others. Finally, chronic loss of perceived control may have lethal consequences, particularly for the institutionalized elderly.

Given this overwhelming experimental show of evidence supporting the benefits of perceived control, it is important to note Langer's explicit statement that "the psychology of control is about the control of oneself and one's perception of reality." (1983, p. 13) It implies an important distinction regarding the value of 'more perceived control is better' statement. It is accurate only to the extent that the control one is trying to exert is over oneself and one's own perceptions, and not

over others, or over particular outcomes in the world. The reason why that is important is because of the overwhelming need humans have to control the outcomes, and to believe that if they just do the right thing, their outcomes will be positive. This idea is represented well in a 'just world hypothesis' (Lerner 1980) according to which people are rewarded for good behaviors with good outcomes and punished for bad behaviors with suffering. The hypothesis, or the delusion, as Lerner (1980) called it, gives individuals a sense of control over the outcomes in their lives.

The desire to control others plays itself out in all situations in which multiple individuals are involved in goal-oriented manner, and have to do things together to obtain joint outcomes—in marriages, school and work teams, sports teams, and organizations. Those who want different things, have different values, or simply a different way of being, are often seen as obstacles unless they behave in exactly the manner in which we would like them to behave. It is easy to see why this attempt to control others (for example, nursing home administrators who want strictly scheduled meals, in order to make the meal times faster and more efficient for the staff, and thus more economical for the institution) would conflict directly with individuals' desire to have control and choice regarding their meal times. Working in a team, likewise, can be an excruciating experience for many, particularly those who believe that the project must have only one (most successful) outcome.

Even when other people are not involved, outcome focus can become a serious detriment. For example, it has been shown that cancer patients' sense of perceived control is associated with a number of positive psychosocial outcomes, but only if the sense of control extended over daily emotional reactions and physical symptoms, but not the course of the illness (Thompson et al. 1993). This is important because if the patient believed that she can control the course of illness, and the illness continued to advance, it would have a deteriorating consequence on her psychological and physical well-being. Imagine, after all, feeling that you are not getting better from cancer because it is *your choice*, despite all the suffering.

The riddle then becomes a motivational one. How does one exist in a state in which they exercise choices with regards to oneself and one's perceptions, while at the same time not insisting on the outcome that evolutionary theorist claim is the ultimate outcome, the motivation underlying all others—survival of one's genes (Buss 1995). One might argue that a person may want survival, but also understand that whether or not they will survive is not entirely under their control (unless it is, of course). Yet, even a simple overview of human behavior shows us that if we want something very much, we will want to control ourselves, others, and circumstances, in order to make it happen. It is this apparent paradox that needs to be resolved in order to allow us an insight into why and how one can be mindful and have control over the self while not wanting to dominate others and the world. To do so, I shall reexamine (from an existential perspective) a theory by a humanist godfather of motivational theory.

Tipping the Maslow's Pyramid

Maslow's (1954/1970) theory of hierarchy of needs, as represented by a pyramid that has D or deficiency needs (such as physiological needs, safety, belonging and love, self-esteem) below B or being needs (all needs related to self-actualization) is perhaps one of the most easily recognized by psychology students and lay persons alike. Any mention of Maslow's name in a conversation will be followed, in almost a Pavlovian fashion, with a rhetorical question: 'the guy with the pyramid, right?' The only problem with Maslow's theory of hierarchy of needs is that it turns out to be incorrect (Wahba and Bridwell 1976). It is not the conceptualization of the needs themselves that is incorrect, but rather their organization into a hierarchy and the subsequent implication that a sufficient satisfaction of D needs will lead inevitably to at least some satisfaction of B needs. No matter where we look in everyday life, Maslow's hierarchy assumption appears to be violated. Many wealthy individuals with loving families and iron sense of self-esteem appear to struggle with self-actualization, whereas many artists who have to couch-hop from one friend to another, are in incessant struggle with lack of funds, shelter, food, and security, and have a train-wreck of turbulent relationships behind them, often experience blissful prolonged periods of self-actualization.

Treating the needs from an evolutionary perspective obscured the existential component in the motivational field—choice. It turns out that Maslow himself went down this existential route in his book *Toward the Psychology of Being* (1962/1968). In it, he has a simpler, and perhaps a less catchy diagram, but one that in its essence, tips his pyramid to the side.

Safety ← Person → Growth (Maslow 1968, p. 47)

In this work Maslow (1968) goes on to propose that individuals are inherently caught between their needs for safety and growth, and that their motivational state will finally depend on the act of choosing. Tipping Maslow's hierarchy has an effect of giving us much more useable psychology of motivation. I will now propose an extension of this theory that might be helpful in understanding better obstacles to process-oriented motivation that is essential to mindfulness.

Unrelenting Conflict, Innumerable Choices

If we look at the animal world, Maslow's conflict between safety and growth can be illustrated by an image of a gazelle hiding in the forest, unable to access water (or other nourishment) in the clearing, on account of prowling predators. In that scenario, we imagine that the sophisticated evolutionary mechanism would have determined exactly how much danger should gazelle endure to reach nourishment, that is, what is the optimal level of risk for the ultimate survival of the gazelle. In this case, we have an animal with conflicting needs, but with a clear evolutionary objective: survival. Thus, in animals, there is a final principle based on which all

other needs are reorganized. An example involving humans would be much more complicated. For clarity, let us replace Maslow's need for safety with an instinct for survival, and his need for growth, with an instinct for development (and not just physical development, as implied by the term 'growth').

Survival ← Person → Development

Let us posit the survival instinct to comprise all the needs we have in common with our evolutionary cousins: status, wealth, security, empathy toward family members only, and emotions of sadness, anger, happiness, humiliation, etc. When governed by this motivational cluster, we are no different than our pets—we have the same appetites, needs, and objectives. Let us furthermore posit that the other (developmental) set of instincts is more uniquely human, in that it includes a cluster of needs, such as the need to develop one's potential in various domains, ability to be guided a vision, empathy toward strangers, and emotions such as joy, awe, inspiration, regret, and tragedy, all of which are not as readily exhibited by our animal cousins. The essential conflict, of course, is that pursuing one's development (emotional, occupational, or otherwise) may come at the price of survival. That configuration of instincts would be illogical in the rest of the animal world. Based solely on the survival outcome, a young journalist wanting to fulfill her occupational potential would subjugate her need to work as a war correspondent in Syria and stay at home, taking on challenges that provide her opportunity for some development, all the while maintain the safe location. But, that is not what always happens in real life.

In everyday life, people often take survival risks for the sake of development, or forego development for the sake of survival. In order to act, it appears that a human being needs to make a choice whereby one instinct will predominate and drive the motivational system. It is as if the survival instinct literally incorporates (swallows up) the development instincts, or vice versa. That means that the motivational conflict does not end even while we are dominated by one set of instincts. The artist will still have to worry about the rent, and the person with safe, mind-deadening job, will still have pangs of suffering, since his developmental needs will still voice themselves, no matter how muffled that voice may be. A similar conflict pervades choosing relationship partners, where individuals feel torn between partners who are 'good for us' (survival/safety) versus the ones that challenge and excite us, but may lead to failed relationships. There are many situations in which focus on development will naturally increase the chances of survival outcomes (such as money, wealth, health, and status) being reached, but the important point here is that it is not a certain outcome, and one must engage in the development knowing that it may not necessarily lead to survival outcomes. Otherwise, we would not have a motivational conflict; we would all just focus on development, get survival needs met as a matter of fact, and would have no trouble not focusing on outcomes (since we know they are forthcoming anyway). When young people ask, 'Won't all turn out well if I just follow my passion?' one must honestly answer with 'It depends what you mean by "well". You will be joyful and fulfilled, but may end up broke, alone, or dead.' It is not the answer most people like. Choosing development (or

'passion' in the modern parlance) is a difficult choice precisely *because* development is not *necessarily* paired with survival outcomes.

The central difference between these two sets of instincts is that the survival one focuses on outcomes (being happy to have achieved the outcomes of money, status, lasting relationship, etc.), while the development instinct focuses on the process (the joy of doing something or being with someone for its own sake). That means that we are continually choosing, caught in the conflict between powerful but relentless motivational forces, being governed by the outcome or the process. Maslow (1968) himself noted, ruefully, that most people spend most of their lives making safe choices, chasing the survival-oriented outcomes. No wonder, given our evolutionary history. Yet the very same people are puzzled and frustrated as to why they cannot reach the survival outcomes promised by mindfulness (better health, productivity, etc.). The short answer is that those outcomes presuppose mindfulness, which in turn requires relinquishing the focus on the outcomes.

Practical Steps to Process Orientation

Langer (1983) argues that a meaningful sense of perceived control, and thus mindfulness, is inextricably bound to a process orientation—a focus on the process rather than outcomes. This is because the outcome orientation produces in a person preoccupations and judgments about whether the self can accomplish the goal or not, whereas a process orientation produces in a person a focus on how to accomplish the goal. Similar benefits of process versus outcome orientation have been found by Seligman (1975) in his study of learned helplessness, and Dweck and Leggett (1988) in their study of how different implicit beliefs about the self (incremental vs. entity) produce mastery versus helpless response in learning. In the end, it is the inability to stably inhabit process orientation that constitutes the main obstacle to mindfulness, and precludes all positive outcomes associated with it. This is rather ironic, given that it is the outcome (the potential of enhanced well-being associated with mindfulness) with which this paper began, which may make individuals interested in being mindful in the first place. This paradox is at the core of why many people remain mindless in the face of punishing consequences.

From the practical perspective, two things need to happen for a person to stay in a motivational state that is cognitively compatible with mindfulness. First, they need to understand the survival versus development conflict, and *choose* development, knowing that the positive survival-related outcomes are not ensured. This prevents reversion to outcome focus as soon as the process does not yield survival-related outcomes. Given that life presents us with innumerable choices, it would be important that this choice be continually made across the time span for which we would like to be mindful.

The second necessity would be a feedback loop that alerts an individual she is no longer in the 'developmental' motivational state—that she has unconsciously fallen back to survival-related motivation. The best signaling tools in our evolutionary

history, of course, are our emotions. Emotions signal to us where we stand in relations to our goals, and given that motivational and development instincts yield a different set of goals, it is reasonable that the emotions for the two systems will differ. For example, knowing the difference between happiness (I'm closer to achieving, or have already achieved my set goal) and joy (I'm in the midst of an activity that is developing me), can be very informative, particularly since happiness is a short lasting signal that follows evidence of success, and joy a continuous signal irrespective of evidence of failure or success. Failure to develop will produce suffering (opposite of joy), even if a person is successful and happy at achieving their goal. Learning how to distinguish between such emotions, as well as understanding complex emotional states such as being happy and suffering at the same time, is a skill that can be learned and would be useful to maintain oneself in a developmental motivational field.

The second potential feedback loop that would prevent reversion to outcome-focused motivational state is noticing whether one treats oneself as an object or a subject (Djikic and Langer 2007). When in survival motivational state, individuals will treat themselves as objects, and consequently compare themselves continually to others around them; when in a developmental state, the respective location in comparison to others will be irrelevant, and individuals will only compare themselves to their future (or past) selves. The very common act of comparison with others would immediately signal to us that we are not in a motivational state compatible with mindfulness.

The practical steps toward process orientation require both making an informed choice for development rather than survival-related goal, and a feedback mechanism that prevents one from reverting to the outcome-focused motivation. It is only then that mindfulness becomes possible.

Conclusion

Three decades ago, Langer (1983) presciently highlighted process orientation and perceived control over self, but not others or outcomes, as key factors without which mindfulness cannot exist. We need to be reminded both of this, and the fact that mindfulness is not only a state of mind, but a way of being that requires a particular existential choice. Most of us want mindfulness mindlessly, wanting the positive outcomes, heedless of the choice that mindfulness demands. Yes, we all may want the existential jackpot of experiencing joy and fulfillment of being governed by our instinct for development, being mindfully present, while at the same time having all our survival-based needs met. It does happen, and when it does, life can be an extraordinary, beautiful thing. You can start a business for the love of it, and become rich doing it. You may start the relationship for the love of it, and keep your love. But, you may also lose everything. The price of mindfulness is having the courage to choose a way of being in which things may not go just as you have wanted or planned, but which allows you to develop mindfully nontheless.

References

Alexander, C., Langer, E. J., Newman, R., Chandler, H., & Davies, J. (1989). Aging, mindfulness and meditation. *Journal of Personality and Social Psychology, 57*, 950–964.

Buss, D. M. (1995). Evolutionary psychology: A new paradigm for psychological science. *Psychological Inquiry, 6*, 1–30.

Carson, S., Shih, M., & Langer, E. (2001). Sit still and pay attention? *Journal of Adult Development, 8*(3), 183–188.

Djikic, M. (2014). Art of mindfulness: Integrating eastern and western approaches. In A. Ie, C. Ngnoumen, & E. J. Langer (Eds.), *The wiley blackwell handbook of mindfulness* (pp. 139–148). Oxford, U.K.: John Wiley & Sons Ltd.

Djikic, M., & Langer, E. J. (2007). Toward mindful social comparisons: When subjective and objective selves are mutually exclusive. *New Ideas in Psychology, 25*, 221–232.

Dweck, C. S., & Legget, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*(2), 256–273.

Langer, E. J. (1983). *The psychology of control*. London: SAGE publications Ltd.

Langer, E. J. (1989). *Mindfulness*. Reading, MA: Addison-Wesley.

Langer, E. J. (1997). *The power of mindful learning*. Reading, MA, US: Addison-Wesley.

Langer, E. J., & Abelson, R. P. (1972). The semantics of asking a favor: How to succeed in getting help without really dying. *Journal of Personality and Social Psychology, 24*(1), 26–32.

Langer, E. J., Beck, P., Janoff-Bulman, R., & Timko, C. (1984). The relationship between cognitive deprivation and longevity in senile and non-senile elderly populations. *Academic Psychology Bulletin, 6*, 211–226.

Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interactions. *Journal of Personality and Social Psychology, 36*, 635–642.

Langer, E. J., Heffernan, D., & Kiester, M. (1988). *Reducing burnout in an institutional setting: An experimental investigation.* Unpublished manuscript, Harvard University, Cambridge, MA.

Langer, E. J., & Moldoveanu, M. C. (2000). The construct of mindfulness. *Journal of Social Issues, 56*(1), 1–9.

Langer, E. J., & Piper, A. (1987). The prevention of mindlessness. *Journal of Personality and Social Psychology, 11*, 155–165.

Lerner, M. J. (1980). *The belief in a just world: A fundamental delusion*. New York: Plenum.

Levy, B. R., Jennings, P., & Langer, E. J. (2001). Improving attention in old age. *Journal of Adult Development, 8*(3), 189–192.

Maslow, A. H. (1954/1970). *Motivation and personality* (2nd ed.). New York: Harper and Row.

Maslow, A. H. (1962/1968). *Toward a psychology of being* (2nd ed.). New York: Litton Educational Publishing Inc.

Park, K. (1990). *An experimental study of theory-based team building intervention: A case of Korean work groups.* Unpublished doctoral dissertation, Harvard University, Cambridge, MA.

Seligman, M. E. P. (1975). *Helplessness: On depression, development and death*. San Francsco: Freeman.

Thompson, S. C., Sobolew-Shubin, A., Galbraith, M. E., Schwankivsky, L., & Cruzen, D. (1993). Maintaining perceptions of control: Finding perceived control in low-control circumstances. *Journal of Personality and Social Psychology, 64*(2), 293–304.

Wahba, M. A., & Bridwell, L. G. (1976). Maslow reconsidered: A review of research on the need hierarchy theory. *Organizational Behaviour and Human Performance, 15*, 212–240.

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Understanding Confidence: Its Roots and Role in Performance

Rosabeth Moss Kanter and Daniel P. Fox

In business, in sports, and in life, it can sometimes seem as though there are only two states of being: boom or bust, winning or losing, and success or failure. When things are going well, it feels as though they will always go well. People feel they can do no wrong; companies have to fight off investors. Likewise, once in a rut—be it personal, organizational, or national—success can feel as far out of reach as a mirage in the desert. To those caught up in these cycles of fortune and misfortune, the reasons for success or failure are often elusive. The successful can grow arrogant, sure they can do no wrong; losers can feel powerless to turn things around. Winners keep winning, unless pride sets in; losers keep losing.

What sets apart those people and groups that continue to succeed from those that are caught in downward spirals is confidence: the expectation of a positive future result. Confidence is not arrogance, nor is it an innate quality; rather, it connects positive expectations to positive outcomes. The cornerstones of confidence—accountability, initiative, and integrity—can be cultivated by individuals, by teams, and by companies. Confidence helps people take control of circumstances, rather than allowing their circumstances to take control of them.

The theory of confidence seeks to explain the culture of success or failure, why winning streaks and losing streaks perpetuate themselves, and how to shift the dynamics of decline to a cycle of success. In this chapter, we systematically describe what confidence is (and what it is not). We discuss the characteristics of confidence that individuals and groups can cultivate on many levels—self-confidence, confidence in others, and confidence in the system. Taken together, these elements provide a guide for people and organizations to grow the characteristics of confidence—and to build toward their own cycles of success.

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These stories and lessons are based on extensive original research undertaken for the book *Confidence* (New York: Crown 2004). This research consisted of hundreds of original interviews, first-hand observations, and insider access to leaders and organizations in North America, Europe, Asia, Australia, South Africa, and elsewhere around the world—as well as two online surveys of 1243 companies in cycles of success and decline. The analysis here is drawn heavily from the book *Confidence* and subsequent research and theorizing.

Momentum in Success and Decline

It is human nature to set expectations based on beliefs about whether conditions seem to be improving or deteriorating, about whether the game can be won or will inevitably be lost. We seek patterns and trends even in events that are random, like gamblers who believe that when they hold a few good hands of cards, that they must be "hot," and that the next hands will be equally good. And for non-random activities, where human effort and skill make a difference, success and failure easily become self-fulfilling prophecies.[1] Patterns, apparent or real, become enshrined in myths and superstitions that have an effect on those playing the game.

Failure and success are therefore not just episodes; they are trajectories. They are tendencies, directions, pathways. A successful or disappointing business quarter does not exist in isolation; its interpretation depends on the trends of previous quarters. Any event's meaning—each decision, each time at bat, each school year, each job interview—is shaped by what has come before unless something breaks the streak. Consider this simple example: a woman arrives at work and learns that she will receive a very small raise. If her colleagues are being promoted around her, she is likely to feel like a failure. If this news comes in the midst of wide layoffs, the meaning of a small raise changes entirely. Context and history matter, and they shape interpretations and expectations of cycles of success and failure.

As patterns develop momentum, streaks start to perpetuate themselves and produce conditions that make further success or failure more likely. Success feeds success and builds positive momentum. We encapsulate this in slogans: when people or groups are "on a roll," they go "from strength to strength." Winning creates a halo effect—a positive aura that makes it easier to attract better talent, more loyal fans, more prestigious business partners, and more eager investors. Repeated success promotes feelings of optimism and empowerment—and people who believe they are likely to succeed are also likely to put in the extra effort at difficult moments to ensure that victory.

[1]Although the idea has roots in the work of earlier sociologists, Robert K. Merton gave shape to the concept of the self-fulfilling prophecy, which he introduced in an article in the *Antioch Review* in 1948 and refined in his book, *Social Theory and Social Structure* (Glencoe, Illinois: Free Press 1949).

Conversely, on the way down, failure feeds on itself, whereas growth cycles produce optimism, cycles of losing breed pessimism and build momentum that can be hard to stop. Losing has a repellent effect; no one wants to invest in, partner with, or cheer for a "loser," and after a while losing starts to feel inevitable. It is harder to attract talent; team members lose trust in each other and themselves, and outside observers' criticisms reinforce doubts. Self-confidence and esprit de corps decay, people stop showing up to work, and people look for a way out from what appears to be a sinking ship. Some resign themselves to failure: before Akin Öngör took charge at Istanbul's Garanti Bank and led it in a dramatic turnaround, a previous CEO had directed aides to deliver his mail to a bar across the street rather than to his office, which indicated the CEO's low expectations. (In Öngör's later turnaround, setting high expectations was vital to building successful momentum.[2]) And even when people and groups caught in cycles of failure do succeed, they are viewed with suspicion. They are losers—their success is a fluke, or they must have cut corners.

In short, confidence grows in winning streaks and helps fuel a tradition of success. Confidence erodes in losing streaks, and its absence makes it hard to stop losing. People are likely to bet on a team that believes in itself and digs deep at critical moments. Those assumed to be successful have no trouble attracting the investment that ensures their success. But if people who must invest their time or resources in an enterprise believe that it is failing, they withhold effort and investment, and that deepens the state of decline. Self-fueling cycles of advantage or disadvantage can become growth engines or death spirals.[3] It is sometimes hard to disentangle cause and effect. Previous wins can create enthusiasm for high performance, which helps produce victory, and losses can cause poor performance as much as poor performance can cause the next loss. Success provides the resources, the pride, the enthusiasm that make it easier to succeed the next time—that build confidence.

The language of winning and losing used throughout this chapter belongs to sports. Sports have a great deal in common with life, but they are just a small slice of life. In sports, as in political campaigns, courtroom battles, or competition for a share of any fixed market, every game produces winners and losers. But even in sports, there are multiple definitions of success and failure—for example, some perennially losing teams can still succeed financially. In other pursuits, "winning" and "losing" are often complex, overlapping, or blurred. Success in life has many meanings, and a win for one does not have to be at the expense of another. That is the broader way to think about winning streaks and losing streaks: they are shorthand for repeated success or failure at achieving goals.

[2]Kanter (2004).

[3]A sampling of the many views of self-fueling spirals: Lindsley et al. (1995), Snook (1995), Cameron et al. (2003).

The Role of Confidence

Despite the centrality of confidence to success, there is a little understanding of what confidence really is. Is a vote of no confidence in Parliament or the boardroom the same type of confidence as consumer confidence in the economy? How does the confidence of individuals impact the confidence of an organization? And how does confidence grow and erode? Understanding confidence enables us to understand cycles of advantage and disadvantage—the dynamic interplay of situation, behavior, attitude, system performance, and results. For example: how opportunity shapes ambition and explains differences in the career paths of men and women, why powerlessness corrupts and empowerment is vital to high performance; the difference between a culture of pride and a culture of mediocrity in encouraging or stifling innovation; or how responses to new threats and opportunities determine effectiveness in dealing with them.

Confidence, as we define it, consists simply of positive expectations of favorable outcomes. Confidence shapes the willingness to invest—to commit money, time, reputation, emotional energy, or other resources—or to withhold or hedge investment. This investment, or its absence, in turn affects the ability to perform. Confidence is central to civilization. The success of any amalgamation of people—a team, a company, an economy, and a society—depends on it. Every step, every investment we make is determined by whether we feel we can count on ourselves and others to accomplish what has been promised. Confidence determines whether our steps—individually or collectively—are tiny and tentative or big and bold.

Confidence has no room for despair, but it also has no room for despair's antithesis: arrogance. Arrogance is the failure to see any flaws or weaknesses; despair is the failure to acknowledge any strengths. Arrogance, or overconfidence, leads people to stretch themselves too thin. They over-build, assume they are invulnerable, and become complacent—trusting in the momentum of previous success to fuel continued success.[4] Those who grow arrogant trust that every effort will be a success. Leaders neglect fundamental disciplines, and investors become gamblers—and this delusional optimism, lacking the critical evaluation of strengths required by true confidence, can itself trigger the end of a winning streak. But under-confidence is just as bad, and perhaps worse. It leads people to under-invest, to under-innovate, and to assume that everything is stacked against them, so there is no point in trying.

Confidence, in short, is the sweet spot between arrogance and despair. It is a positive expectation of outcomes, fueled by well-grounded belief in oneself, one's team, and one's system. It is an attitude, a can-do approach that rests on three cornerstones: a spirit of accountability and integrity, a spirit of personal collaboration, and a spirit of initiative. And—good news for those caught in cycles of decline—successful turnaround leaders have been able to cultivate these values to stop losing streaks and start winning.

[4]Lovallo and Kahneman (2003).

Confidence is not just in people's heads. There are certainly differences between individuals in character, mood, and interpretation of situations. Confidence is not an artificial mental construct, solely dependent on what people decide to believe. It reflects reasonable reactions to circumstances. Mindfulness can help people more fully assess situations and develop expectations. But situations make a difference. People are caught in cycles, and they interpret events based on what they see happening, on how they are treated by others around them. Success and failure are not just functions of agglomerated individual talent, and they cannot be predicted by adding up individuals' IQs or grade point averages or the number of letters after their names. The momentum of the systems people are in shapes a culture that shapes perceptions that shapes the confidence to invest—or not. Success derives from the broader context that surrounds the players. Individual players must cross a threshold of talent, whether that talent is a genius for comedy, natural athletic ability, or mental dexterity. But continuing success is not a matter of raw talent. A system's ability to attract people, develop their skills, build bonds among team members, gather external support, and do all the other behind-the-scenes work, is vital. Powerful historical, economic, and organizational forces accumulate to shape the likelihood of success.

At the most basic level, confidence presents itself physically—in body language, in demeanor, and in personal surroundings. Chris Wallace, general manager of the Boston Celtics, used the toes and shoulders test to see whether professional basketball players were likely to win: whether players are up on their toes or sticking close to the ground, whether shoulders are sagging or players are standing tall. Research from Amy Cuddy, a Harvard Business School colleague, indicates that "power posing"—striking a confident pose—is a psychological trigger that can reinforce actual confidence.[5] Demeanor in turn sends signals that shape other people's confidence in the team or the business. Consider the experiences of a high-profile cosmetics executive as she visited the Target and K-Mart headquarters to discuss distribution of a new mass market cosmetic label. The Target executives were welcoming, enthusiastic, and well-prepared, projecting confidence and camaraderie, and their offices were clean and bright. The K-Mart executives, in contrast, were disheveled, stooped, and apathetic, their offices grubby and dark. "Everything you do sends a message," she noted—in this case, that Target was on a winning streak while K-Mart spiraled downward. Sure enough, shortly after this visit, K-Mart filed for bankruptcy—and Target got the distribution deal. The winner kept winning, the loser kept losing.

These examples are not to imply that confidence guarantees succeeding every single time. Too many factors—improving competitors, new technology, acts of nature, or simple bad luck—make it impossible to succeed at everything in perpetuity. To err is human, and even the best teams will occasionally lose. But what confidence makes more likely is that accountability, collaboration, and initiative will shape positive expectations for the next round after a loss. Successful people

[5]Carney et al. (2010).

and teams are more likely to analyze problems and face them head-on, partner with team members to work on any issues, and take the initiative to innovate or make adjustments. People with confidence feel they can count on themselves, count on other people, and count on shaping what happens after they lose. They can lose and take it in stride—and redouble their efforts to return to winning.

Confidence motivates people to put in extra effort, to stretch beyond their previous limits, to rebound from setbacks, or to play through injuries anyway. People with confidence stay in the game no matter what. Mike Krzysewski, Duke's successful "Coach K," called this the principle of "next play." "Don't take what you did in this play to the next play—positive or negative," he told us. "If you develop a culture that is built on next play, collective responsibility, and care, when a loss or a mistake occurs, you are more apt to suffer it together, and get on with the next thing with more of a positive outlook. We say we will never lose two in a row." There can be a boost from mindfulness if being mindful helps people be attuned to the present, but dwelling on the past can interfere with focus on the next action.

And therein lies the secret to succeeding: *Try not to fail twice in a row*. It's a basic insight but an important one. Confidence—positive attitudes underlying positive expectations—provides the necessary resilience for people and groups to rebound from a loss to win again. Decreasing the chances of losing twice in a row —the surest way to undermine confidence—in turn increases the likelihood that the successful will continue to succeed.

Cornerstones of Confidence: Building Character in People and Teams

Character is a term used often by successful people and organizations. Gordon Bethune at Continental and Steve Luczo at Seagate, both effective leaders in restoring confidence to their organizations, eliminated managers who did not have it. Elsie Bailey, principal of Booker T. Washington High School during its dramatic turnaround, looked for it in new teachers and administrators. Character is shaped by values, which can be taught and communicated. They can be reinforced by reminders of responsibilities to the wider world. Whether innate, nurtured in a secure childhood, faith-based, or taught by leaders and their values, character helps people make positive rather than negative choices when confronted with losing, and those positive actions make recovery and return to a successful path more likely.

People with character have cultivated in themselves the three cornerstones of confidence: accountability, collaboration, and initiative. These internal qualities provide the support they need when trouble hits—giving them the confidence they need to respond to setbacks in the most productive way. They behave accountably in living up to their responsibilities—looking for what went wrong and putting in extra effort to make things right. They reach out to others, behaving collaboratively in the knowledge that they are stronger together. And with a spirit of initiative, they

take positive steps in the knowledge that making changes, however small, can make a difference.

Confidence is an expectation of a positive outcome, but what happens when outcomes are negative? The time of the first loss is when people have the most control over what happens next. At that point—the first sign of slippage—the characteristics of confidence come into play. Rather than panicking or slipping into denial, confident leaders and teams spring into action.

Later, when a streak has hardened, a cycle is in motion, and patterns are established, it is much more difficult to change course. Even then, though, change is possible through reliance on these cornerstones. Consider the example of Nelson Mandela: despite 27 years in prison, he maintained his strength and honesty—his accountability; built his support system—collaborated; and educated other leaders with faith that he would someday emerge from prison to lead. He took initiative despite the most dire of circumstances.

The dividing line between winning streaks and losing streaks is the choice of behavior in response to setbacks. Every game has fumbles, every dynamic team is sometimes behind, and every successful company must respond to crises or handle errors. But the first setbacks represent a choice point: whether to shore up the cornerstones of confidence—a sense of personal responsibility, respect for others, the desire to do something to make a difference—or to slip into self-defeating behavior.

Dig Deeper, Work Harder: The Spirit of Accountability

Commitment to a goal stems from high internal standards—the desire to achieve excellence in any pursuit and regardless of the outcome. It comes from the deeply held belief that excellence is its own reward. Digging deeper, all the way to the roots, is a way to find those internal standards, and to find the courage to examine whether they are being met. This focus on personal accountability means it is possible to succeed while playing badly, and to fail while playing well. The standard is internal—and based on a deep commitment to excellence and improvement.

Internalizing a standard of accountability means being willing to face the truth, to be honest with oneself about strengths, weaknesses, and situations. Understanding the context of events, and one's place in them, makes it possible to avoid being victimized or feeling like a victim. Seeking the truth and feedback—even if the truth highlights one's weaknesses—is the first step toward improvement. Fundamental to improvement, after all, is knowing what must be improved.

The spirit of accountability also involves perseverance—the willingness to go on rather than give up in the face of challenges. Perseverance is the willingness to stay in just a little longer, run just a few more steps, practice just a little harder, and try just one more time. Improvement can be challenging, and even the best efforts can

feel fruitless in the face of failure. It is here that Kanter's Law is most applicable: "Everything can look like a failure in the middle." Those with confidence press on despite setbacks, treating them as detours en route to success rather than roadblocks along the only path. Faced with obstacles, they redouble their efforts to find a way around them.

From sports coaches who design practices that are tougher than games, to executives who set audacious stretch goals for a dispirited workforce, working hard toward a goal spurs innovation and builds pride. By practicing the quality of perseverance—quite literally by practicing—people discover that they are capable of far more than they first thought. The successful depend on thorough preparation and extremely hard work—and a spirit of accountability helps them get there. This hard work, in turn, is a fundamental building block of confidence as it helps people build confidence in themselves.

Reach Out, Seek Support: The Spirit of Collaboration

Belief in oneself is essential to confidence, but true confidence—a positive expectation about the ability to reach a goal—requires more. One of the best things people can do when facing a loss that feels personal is not to think of themselves at all, but to think first about others—reinforcing the second cornerstone of confidence, a spirit of collaboration. While reaching out reinforces teamwork and confidence, reactions to setbacks such as anger or sulking, typical of people without a spirit of accountability, are inherently selfish and drive people further apart. In this way, accountability and collaboration reinforce each other, and the lack of one quality can erode the foundations of the other.

Nelson Mandela exemplified reaching out, as a revolutionary and then later as a statesman. He relied on close colleagues during his years of imprisonment, sought international support for his cause, and sought to befriend former enemies after his release. Mandela realized that seeing virtues in others, rather than emphasizing their faults, brings them closer. The culture of pride that surrounds winners comes from admiration and respect for others' talents. Great leaders in business have high standards and don't tolerate those who resisted change, but it is striking how much they draw people to them by praise and recognition.

Teams that collaborate are also more likely to hold each other accountable. Working in isolation, it is easier for an individual to justify giving up, sulking, and passing blame on to others while working to protect her own interests. In teams that support each other, giving up harms not only oneself but also one's relationships as unmotivated individuals drag down the team. Mutual support from team members is vital to maintaining accountability, and continued collaboration builds the kind of mutual respect and confidence in others' abilities underpinning the spirit of collaboration. Avoiding the losers' temptation to shut down and withdraw helps

restore confidence and the ability to build toward success. As the adage says, many hands make light work; it is easier do together what seemed impossible alone.

People without a set of teammates to help them weather difficult times do not have to suffer in isolation. Support can come from anywhere: personal friends, a professional network, or even peer's one has not worked with. In this respect, networking can prove invaluable. Take Ulrike von Manteuffel, an employee at German IT giant Siemens Nixdorf. When an important project was canceled in her absence, peers she had previously reached out to responded, and a co-worker she barely knew intervened on her behalf to restore the project. Von Manteuffel's experience illuminates the principle of reciprocity for those who help others: *Give, and you shall later get*.

When approached directly for help, people can be remarkably generous and even flattered to be asked. Even in troubled organizations characterized by warring factions, people at lower levels who are insulated from the turf battles above them often do favors for one another. At Peabody Elementary School in Memphis, which had no tradition of parental involvement and a large number of students from single-parent families, a new principal got fathers to help with school security simply by asking. Reaching out can uncover surprising resources that previously went unacknowledged.

On a successful team, work ethic does not come from only from coaches, fans, or self; it comes from peers. David Heffernan, offensive lineman for 1983 championship Miami Hurricanes, put it well: "It's when you are terrified of looking into the eyes of your teammates and letting them down in some way. When the players can push each other, that is when you get a ton of success." Team members who respect each other and feel that respect reciprocated—in sports, in companies, in life—don't want to disappoint their teammates any more than they want to disappoint themselves.

Take Ownership: The Spirit of Initiative

Winners are willing to move forward and take risks when faced with problems, and their confidence even helps them risk being wrong. They prefer action to inaction and work to move forward, knowing that only hindsight is 20/20. The spirit of initiative can be summed up quite simply: *Just do something!* The spirit of initiative is as important for those in cycles of success as it is for those caught in downward spirals; initiative roots out the complacency that can bring cycles of success to an end.

On his first day as CEO, one great leader called himself "often wrong; never uncertain." A successful basketball coach spoke to the ability to make immediate changes instead of worrying about ego: "Instant corrections help you stop losing and maybe keep winning." The confidence to embrace uncertainty—and act

anyway—is what empowers winners to act in the face of failure and correct course when they detect problems. Instead of becoming caught in a cycle of blame, people with the confidence to act and the confidence to take responsibility are willing to admit mistakes and move on.

The spirit of initiative does not require a David-and-Goliath mentality. Some management thinkers recommend having a vision, or BHAG ("big hairy audacious goal"), but the grand goal requires many smaller goals to accomplish. By breaking down a grand vision into discrete, actionable steps, people and teams can take steps toward improvement. In this way, more important than dreams of grandeur is the "15 min competitive advantage"—the ability to stay just far enough ahead of the competition. It is important to have a big goal, but leading by one point is still enough to win. A focus on wild dreams of success—winning the championship, beating the market leader's sales—can distract a team from the actual steps required to attain that goal: working a little faster or a little smarter.

It is not enough to dream of greatness; true confidence involves an understanding that greatness requires initiative and hard work. "You can't jump the process because you were in the title game last year. In order to win you can't jump any stages," observed one championship coach. "We make such a big point of living in the moment of being just mindful of what you're doing today," said another. In 2003, Chicago Cubs manager Dusty Baker—head of a team dogged for years by failure—divided big goals (a winning season) into attainable steps (specific wins and plays) to build confidence and successful momentum. His strategy paid off, and the Cubs made it to the playoffs.

The importance of breaking down big problems into reachable goals extends far beyond the realm of sports. Politicians may long for bold action that will ensure a lasting peace; a dieter might wish for a magic pill to lose weight; and a student might hope for material success without the associated work. But these dreams are absurd. Building peace requires building coalitions, campaigning for support, compromise, and negotiation and it takes years. Losing weight requires a disciplined diet and exercise, and making the leap from a student's poverty to adult fame and fortune requires years of hard work. Great accomplishments require a long march, step by hard-working step. The more faith people have in this realization, the more willing they will be to put in the work—practicing drills, going on a run, getting to work on a new idea—that builds the foundations of lasting success.

Taking one hurdle at a time can have a big impact. Celebrating small wins creates confidence—making the next small wins, and the slightly larger successes after that, that much more likely. Taking small, positive steps has a snowball effect. Even when problems are huge and the challenges daunting, successful people can focus on factors they can control. In the fact of uncontrollable circumstances, people and teams can still control how assiduously they prepare, how hard they work, and how creatively they think.

A spirit of initiative demonstrates the practical power of positive thinking. Coupled with strength of character—accountability—and a willingness to rely on others, the courage to build and improve demonstrates that even small steps can

help toward large goals, bolstering people's faith in the system, in each other, and in themselves.

Learning to Walk on Water

Many companies have unique terms for high-potential employees who will be groomed for leadership roles. One of the most resonant descriptors for these people is "water walkers"—people of extraordinary talent who seem to skate over the difficulties that trip most up, people who seem capable of quite nearly performing miracles. They inspire followers who bet on their success and seem to do no wrong. Followers wonder how to emulate them—how to cultivate their inhuman talent.

Water walkers can be found in all areas of life. Star athletes—Michael Jordan, LeBron James—fulfill a similar roll; people expected Bill Clinton to become president long before he ran for office. Companies with records of continued success, sports teams that appear unbeatable, inspire similar adulation and jealousy as they are accused of arrogance. A conversation on the subject of arrogance sparked a deep observation from an executive within the company that pioneered the term: "The problem with water walkers is that they forget that there are stones holding them up when they walk across the water."

This insight is profound. No individual, no team, no organization, and no society can actually perform miracles; no one can walk on water. But cultivating the fundamentals of confidence—its cornerstones—can give them something to walk on, a firm foundation of support that can indeed appear miraculous to outsiders. Water walkers ignore the stones upon which they walk at their own peril; someday, they might just lose their footing. But when people can rely on themselves and each other to be accountable, to work together; and to take initiative despite the odds, they can accomplish extraordinary feats.

Isaac Newton famously declared: "If I have seen further, it is by standing on the shoulders of giants," referring to the scientists who laid the intellectual foundation for his own accomplishments. His acknowledgment underscores an important truth: people do not succeed, or fail, on their own. People rise to the occasion when they have the confidence to do so—when they have confidence in themselves, in their peers, colleagues, and families, and in the systems in which they operate. Athletes, business leaders, politicians, and others, like Newton, all stand on the shoulders of giants. This basic truth is easily missed by those caught in streaks of success and decline. In cycles of success, people can start to think they actually can do no wrong, that they can perform miracles. In losing streaks, the opposite appears true: that people can do no right. It feels as though talent has disappeared and failure is inevitable—because how could the talented fail? The principles of confidence force a more hopeful reevaluation.

Those in successful cycles have all the fun—adulation, career opportunities, good deals, benefits of the doubt, fewer rules and restrictions—while those on losing streaks miss out. It is easy to feel omnipotent as a winner and to feel hopeless when facing setbacks. Obstacles, from losing streaks and poor peer relationships to economic decline and acts of god, tempt people to give up and engage in losers' behavior—but practically no one is truly powerless. Even if individuals do not control their circumstances, they can still control their responses to those circumstances. They can refuse to resign themselves to losing and losers' behavior, and instead practice winners' attitudes and behavior. By cultivating accountability, collaboration, and initiative, people caught in losing streaks can't guarantee success, but they can tilt the cycle in their favor. They can't guarantee that they will walk on water, but they can at least lay down the stones that walking on water requires.

Confidence guides how people respond to events. Individuals run a mental calculation to determine whether the system around them will support them or let them down, about whether their personal investment of time, energy, effort, ideas, or emotional commitment will produce positive results or will bring disappointment. The confident decide it's worth the extra push, because the push will pay off. But if someone concludes that there's no point in trying, that he might as well be late or skip practice altogether, that other people will only let him down, that no one is interested in an imaginative idea, *et cetera et cetera*, then the outcome is foreordained. The self-fulfilling prophecy is fulfilled. He will lose, and lose again; the streak will harden.

But turnarounds are proof that people can change. The accountable people who join hands to perform mini-miracles in the aftermath of a turnaround are often the same people who were once resentful victims or distrustful turf-protectors under the old regime. As pride and confidence return, losing streaks can come to an end. Failing schools can succeed, and failing businesses can rebound to provide better products and services than before. Run-down communities can be revitalized as residents discover new pride in themselves and their communities and take actions to restore them.

Personal accountability, collaboration, and initiative, reinforcing each other, and creating small wins that can snowball into larger wins help to build the foundation for success. If people look positively at themselves and the hidden value of their assets, they are more likely to discover strengths that they can cultivate. If people look positively at others, those people are more likely to come through for them. And if people look positively at the opportunities any situation provides to take even a small step, they are more likely to find that their actions can make a difference.

Walking on water is as impossible as it sounds; everyone needs stepping stones. The essence of confidence is the knowledge that these stepping stones will provide support—that accountability, collaboration, and initiative will provide the resilience to bounce back from setbacks to victory. Maybe no one can perform miracles, but confidence provides the ability to try to perform at a high level. That means setting

high expectations, backed up by accountability, collaboration, and initiative, to ensure momentum for a positive trajectory.

References

Cameron, K. S., Dutton, J. E., & Quinn, R. H. (Eds.). (2003). *Positive organizational scholarship*. San Francisco: Berrett-Koehler.

Carney, D. R., Cuddy, A. J.C., & Yap, A. J. (2010, October) Power posing: Brief nonverbal displays affect neuroendocrine levels and risk tolerance. *Psychological Science 21*(10), 1363–1368.

Kanter, R. M. (2004). *Confidence*. New York: Three Rivers Press (p. 27).

Lindsley, D. H., Brass, D. J., Thomas, J. B. (1995). Efficacy-performance spirals: A multilevel perspective. *Academy of Management Review, 20*(3), 645–670.

Lovallo, D., & Kahneman, D. (2003, July). Delusions of success: How optimism undermines executives' decisions. *Harvard Business Review*, 56–63.

Snook, S. (1995, January). *Winning and losing streaks in professional football: A study of self-fueling spirals in team effectiveness*. Unpublished Manuscript, Harvard University Department of Psychology.

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Rosabeth Moss Kanter holds the Ernest L. Arbuckle Professorship at Harvard Business School, where she specializes in strategy, innovation, and leadership for change. She is also Chair and Director of the Harvard University Advanced Leadership Initiative, an innovation that helps successful leaders at the top of their professions apply their skills to national and global challenges in their next life stage. A collaboration across all of Harvard, the Advanced Leadership Initiative aims to build a new leadership force for the world.

Her strategic and practical insights guide leaders of large and small organizations worldwide, through her teaching, writing, and direct consultation to major corporations and governments. The former chief Editor of *Harvard Business Review*, Professor Kanter has been repeatedly named to lists of the "50 most powerful women in the world" (*Times of London*), and the "50 most influential business thinkers in the world" (Thinkers 50). She has received 24 honorary doctoral degrees, as well as numerous leadership awards, lifetime achievement awards, and prizes. These include the Academy of Management's Distinguished Career Award for scholarly contributions to management knowledge; the World Teleport Association's "Intelligent Community Visionary of the Year" award; the International Leadership Award from the Association of Leadership Professionals; and the Warren Bennis Award for Leadership Excellence. She is the author or co-author of 19 books. Her bestselling book *Confidence: How Winning Streaks & Losing Streaks Begin & End* describes the culture of high performance organizations compared with those in decline and shows how to lead turnarounds, whether in businesses, schools, sports teams, or countries.

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Irrational Attachment (Why We Love What We Own)

Dan Ariely, Matt Trower and Aline Grüneisen

Illustrations by Matt Trower

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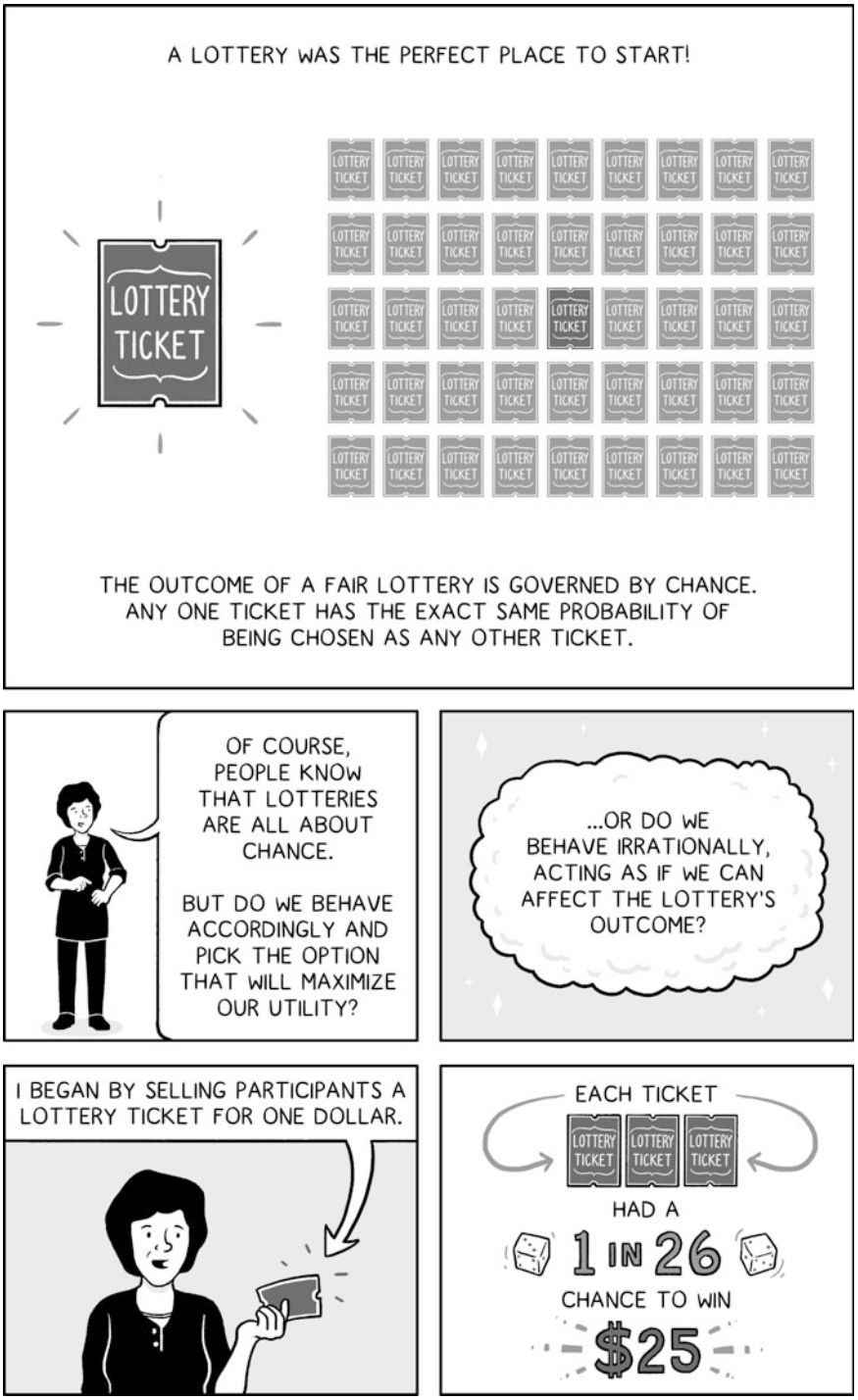
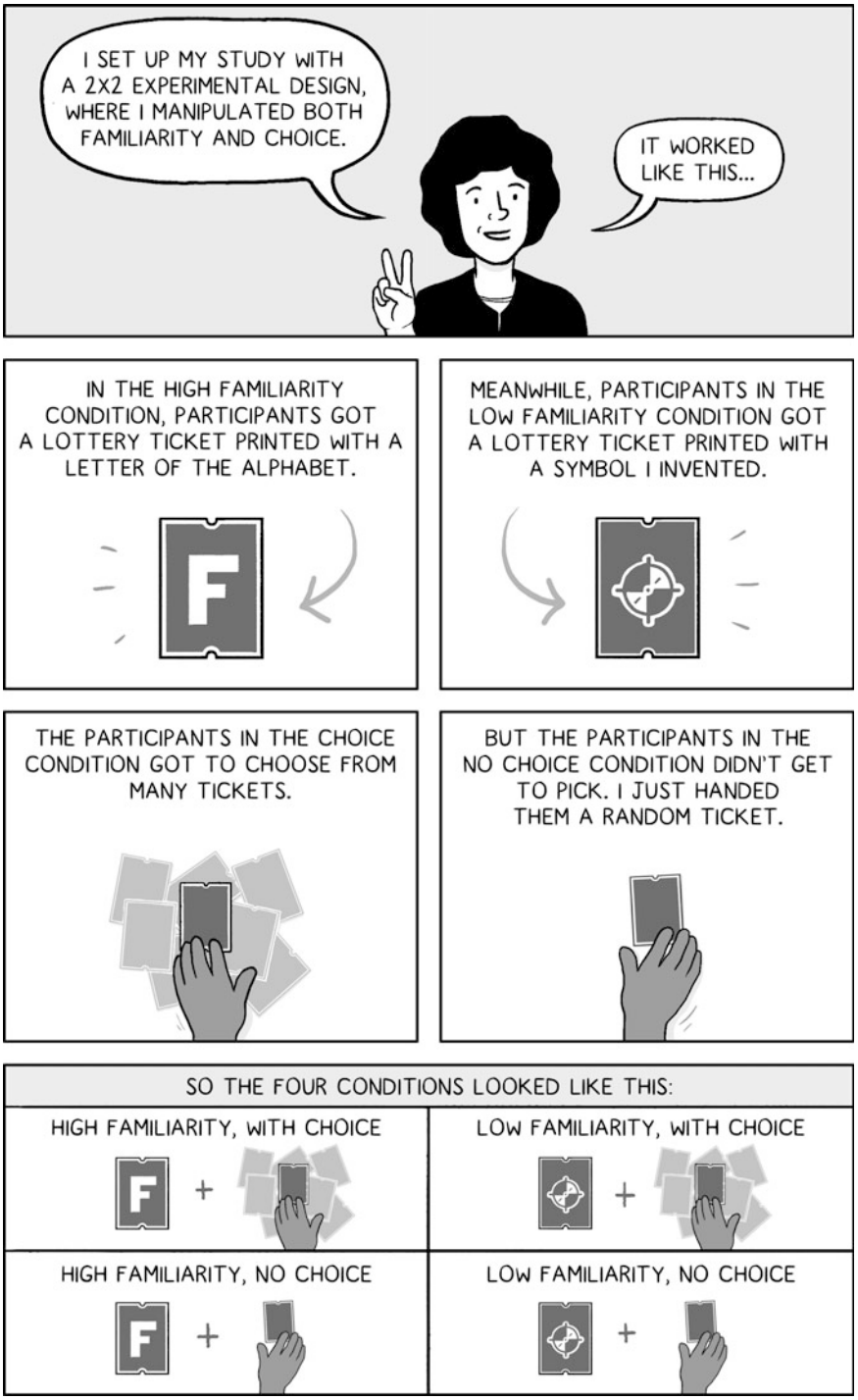
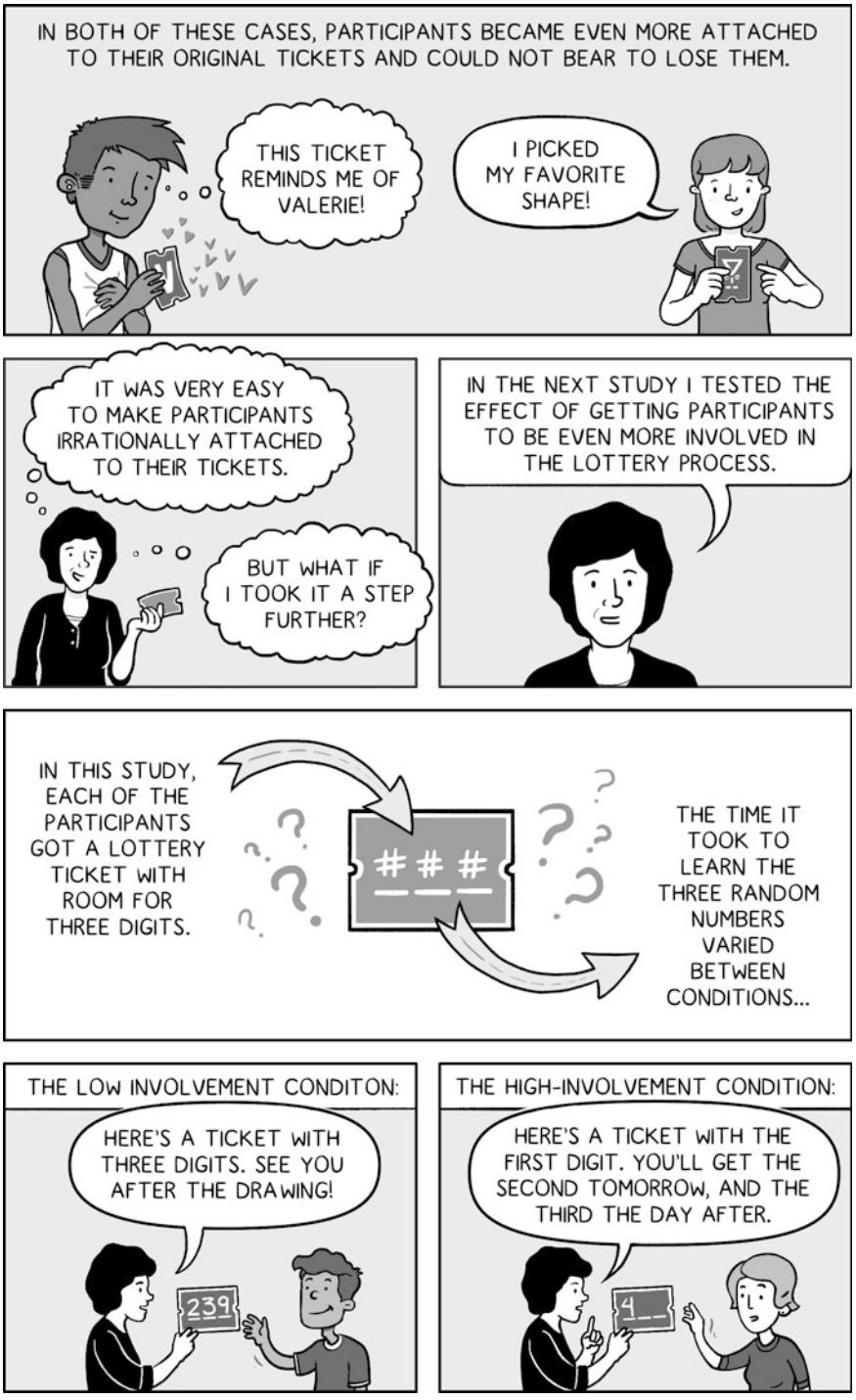
IRRATIONAL ATTACHMENT
(WHY WE LOVE WHAT WE OWN)
IMPROMPTU POKER GAME, YALE, 1970S.
A CARD FOR YOU AND FOR YOU AND...
OOPS!
ER, THAT ONE WAS SUPPOSED TO BE ELLEN'S CARD, NOT YOURS.
RE-DEAL! RE-DEAL!
YEAH, YOU HAVE TO RE-SHUFFLE AND START OVER, OR IT'S NOT FAIR!
WE DO?

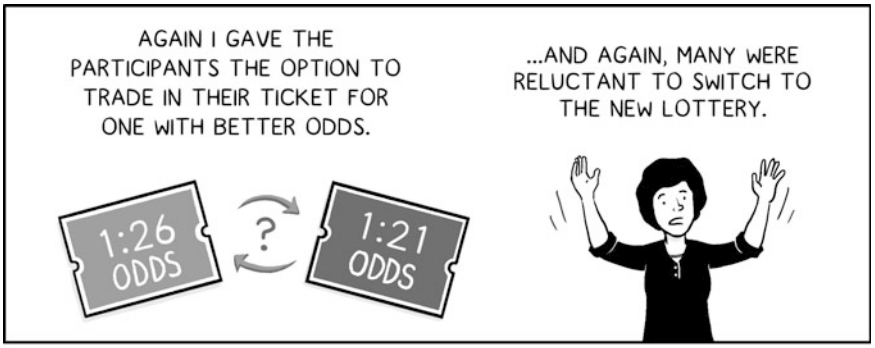

LATER THAT DAY...
WHY DID THEY INSIST ON A RE-DEAL?
???
THE CARDS WERE FACE DOWN AND IN AN UNKNOWN ORDER. IT SHOULDN'T HAVE MATTERED HOW THEY WERE DEALT. I WONDER...
DO PEOPLE FEEL A FALSE SENSE OF CONNECTION TO EVENTS THEY CAN'T POSSIBLY HAVE AN EFFECT ON?
I THINK I CAN TEST THIS IDEA!
PRESENT DAY...
I'M ELLEN LANGER, PROFESSOR OF PSYCHOLOGY AT HARVARD!
THAT POKER GAME REALLY GOT ME THINKING, SO I CARRIED OUT A SERIES OF STUDIES FOR MY DOCTORAL DISSERTATION ON WHAT I CALLED "THE ILLUSION OF CONTROL."
MY FIRST EXPERIMENTS WERE DESIGNED TO EXAMINE THE STRANGE WAYS PEOPLE BEHAVE IN GAMES OF CHANCE.

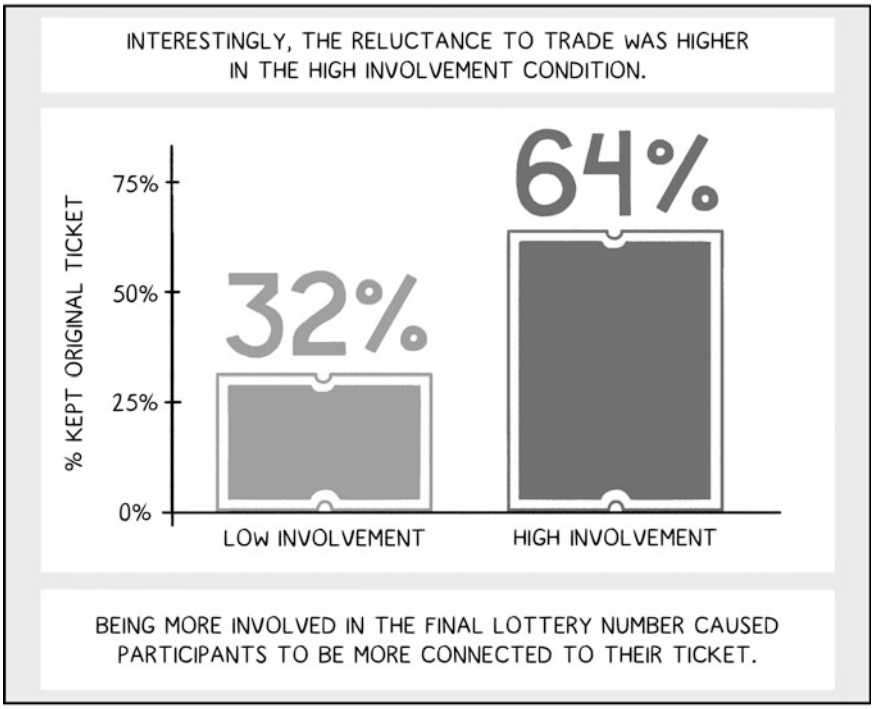

A LOTTERY WAS THE PERFECT PLACE TO START!
LOTTERY TICKET
THE OUTCOME OF A FAIR LOTTERY IS GOVERNED BY CHANCE. ANY ONE TICKET HAS THE EXACT SAME PROBABILITY OF BEING CHOSEN AS ANY OTHER TICKET.
OF COURSE, PEOPLE KNOW THAT LOTTERIES ARE ALL ABOUT CHANCE.
BUT DO WE BEHAVE ACCORDINGLY AND PICK THE OPTION THAT WILL MAXIMIZE OUR UTILITY?
...OR DO WE BEHAVE IRRATIONALLY, ACTING AS IF WE CAN AFFECT THE LOTTERY'S OUTCOME?
I BEGAN BY SELLING PARTICIPANTS A LOTTERY TICKET FOR ONE DOLLAR.
EACH TICKET
HAD A
1 IN 26
CHANCE TO WIN
$25


I SET UP MY STUDY WITH A 2X2 EXPERIMENTAL DESIGN, WHERE I MANIPULATED BOTH FAMILIARITY AND CHOICE.
IT WORKED LIKE THIS...
IN THE HIGH FAMILIARITY CONDITION, PARTICIPANTS GOT A LOTTERY TICKET PRINTED WITH A LETTER OF THE ALPHABET.
F
MEANWHILE, PARTICIPANTS IN THE LOW FAMILIARITY CONDITION GOT A LOTTERY TICKET PRINTED WITH A SYMBOL I INVENTED.
THE PARTICIPANTS IN THE CHOICE CONDITION GOT TO CHOOSE FROM MANY TICKETS.
BUT THE PARTICIPANTS IN THE NO CHOICE CONDITION DIDN'T GET TO PICK. I JUST HANDED THEM A RANDOM TICKET.
SO THE FOUR CONDITIONS LOOKED LIKE THIS:
HIGH FAMILIARITY, WITH CHOICE
F
+
LOW FAMILIARITY, WITH CHOICE
+
HIGH FAMILIARITY, NO CHOICE
F
+
LOW FAMILIARITY, NO CHOICE
+

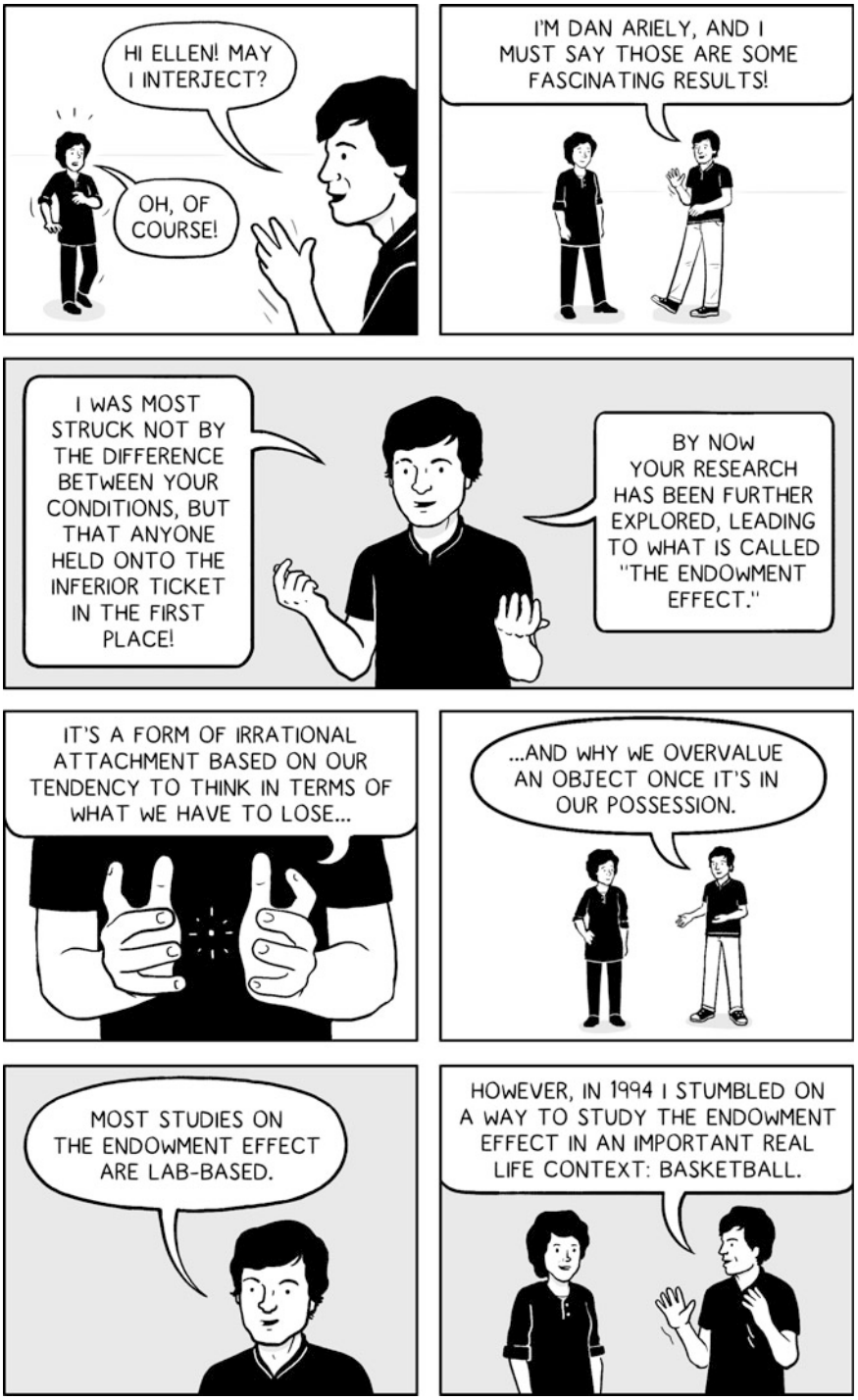

LATER ON, BUT BEFORE THE DRAWING, I WENT BACK TO ALL THE PARTICIPANTS AND GAVE THEM A NEW OFFER.
THEY COULD TRADE IN THEIR ORIGINAL TICKET, WHICH HAD A 1 IN 26 CHANCE OF WINNING $25.
ORIGINAL 1:26 ODDS
NEW 1:21 ODDS
IN RETURN, THEY WOULD GET A NEW TICKET IN ANOTHER LOTTERY WITH SLIGHTLY BETTER ODDS AT A $25 PRIZE.
IN THIS NEW LOTTERY, EACH TICKET HAD A 1 IN 21 CHANCE OF WINNING.
AND WHAT DID I FIND? SURPRISINGLY OFTEN, IT WENT LIKE THIS:
WELL, DO YOU WANT TO TRADE IN YOUR TICKET?
NO THANKS, I THINK I'LL KEEP THIS ONE.
NOW, WITH THESE ODDS, EVERYONE SHOULD HAVE TAKEN THE NEW LOTTERY TICKET.
EVEN SO, ACROSS ALL CONDITIONS, SOME PARTICIPANTS PREFERRED TO KEEP THEIR ORIGINAL TICKET!
ORIGINAL 1:26 ODDS
NEW 1:21 ODDS
BUT WHY?
PART OF THE ANSWER WAS APPARENT FROM THE DIFFERENT CONDITIONS: THOSE WHO GOT TO CHOOSE WERE MORE LIKELY TO TURN DOWN THE NEW (AND BETTER) TICKET.
AND THE PARTICIPANTS WHOSE TICKETS HAD FAMILIAR LETTERS WERE ALSO MORE LIKELY TO KEEP THEIR ORIGINAL TICKET THAN THOSE WHO GOT UNFAMILIAR SYMBOLS.

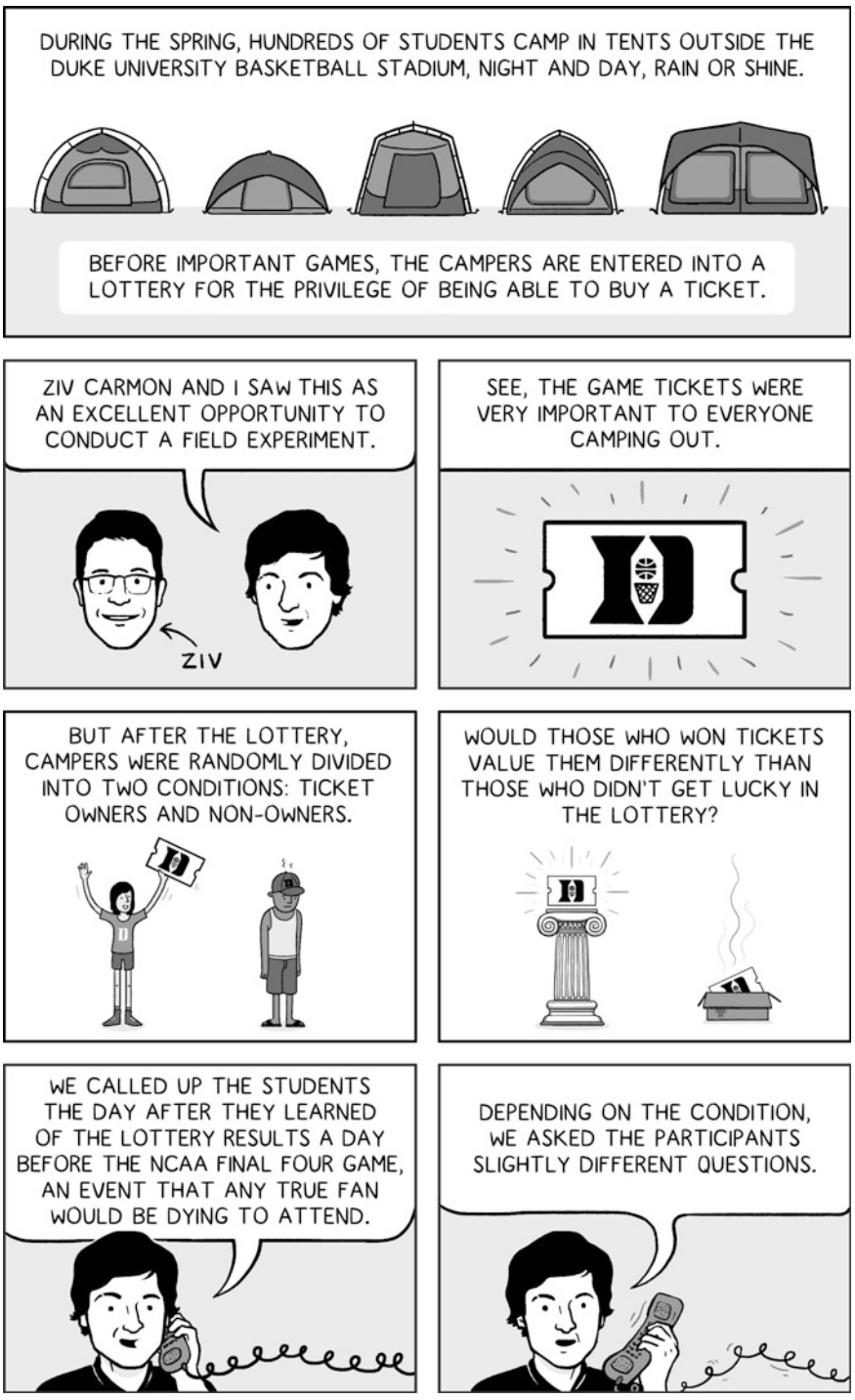

IN BOTH OF THESE CASES, PARTICIPANTS BECAME EVEN MORE ATTACHED TO THEIR ORIGINAL TICKETS AND COULD NOT BEAR TO LOSE THEM.
THIS TICKET REMINDS ME OF VALERIE!
I PICKED MY FAVORITE SHAPE!
IT WAS VERY EASY TO MAKE PARTICIPANTS IRRATIONALLY ATTACHED TO THEIR TICKETS.
BUT WHAT IF I TOOK IT A STEP FURTHER?
IN THE NEXT STUDY I TESTED THE EFFECT OF GETTING PARTICIPANTS TO BE EVEN MORE INVOLVED IN THE LOTTERY PROCESS.
IN THIS STUDY, EACH OF THE PARTICIPANTS GOT A LOTTERY TICKET WITH ROOM FOR THREE DIGITS.
###
THE TIME IT TOOK TO LEARN THE THREE RANDOM NUMBERS VARIED BETWEEN CONDITIONS...
THE LOW INVOLVEMENT CONDITON:
HERE'S A TICKET WITH THREE DIGITS. SEE YOU AFTER THE DRAWING!
239
THE HIGH-INVOLVEMENT CONDITION:
HERE'S A TICKET WITH THE FIRST DIGIT. YOU'LL GET THE SECOND TOMORROW, AND THE THIRD THE DAY AFTER.
4__

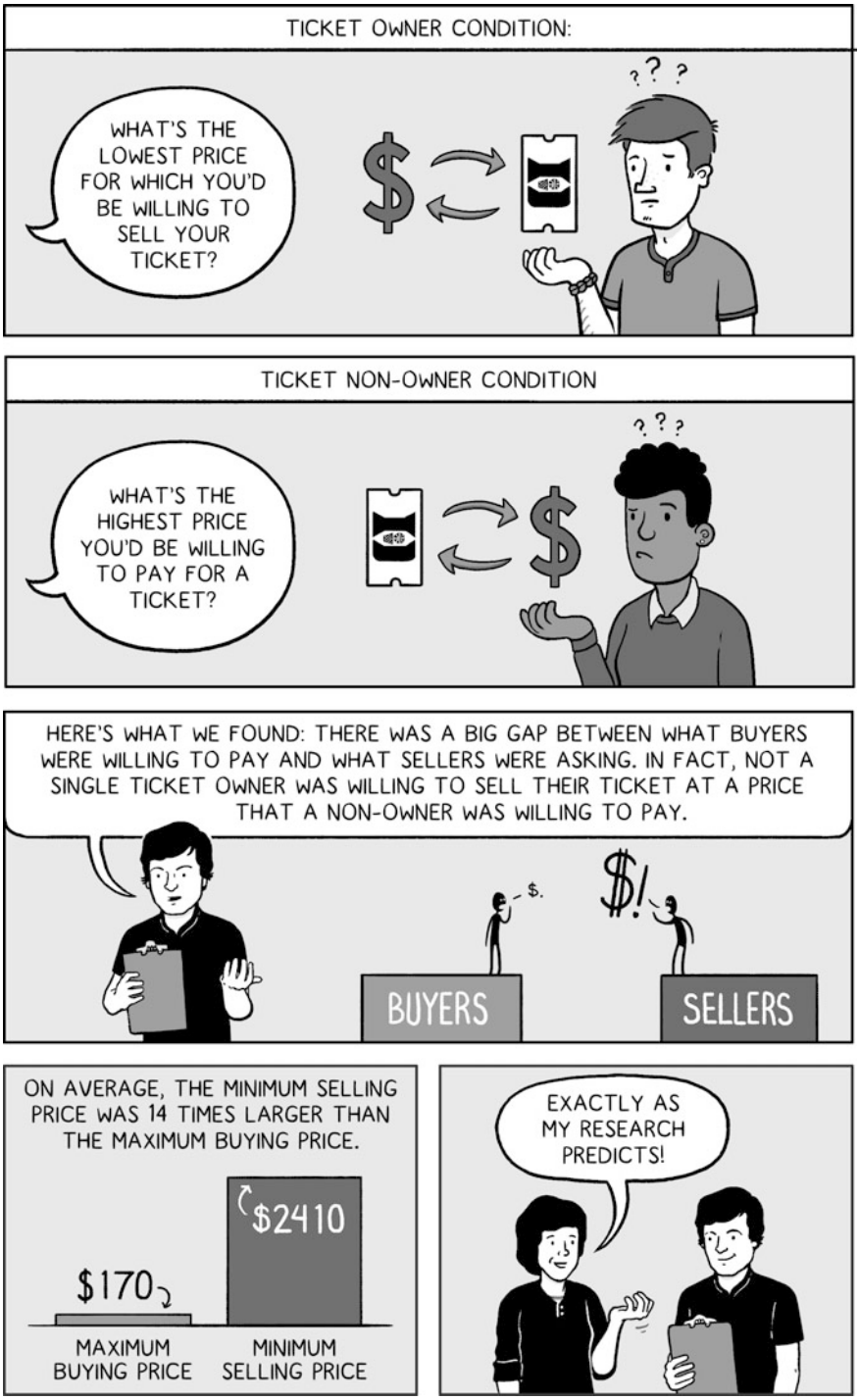

AGAIN I GAVE THE PARTICIPANTS THE OPTION TO TRADE IN THEIR TICKET FOR ONE WITH BETTER ODDS.
1:26 ODDS
?
1:21 ODDS
...AND AGAIN, MANY WERE RELUCTANT TO SWITCH TO THE NEW LOTTERY.


INTERESTINGLY, THE RELUCTANCE TO TRADE WAS HIGHER IN THE HIGH INVOLVEMENT CONDITION.
% KEPT ORIGINAL TICKET
75%
50%
25%
0%
32%
64%
LOW INVOLVEMENT
HIGH INVOLVEMENT
BEING MORE INVOLVED IN THE FINAL LOTTERY NUMBER CAUSED PARTICIPANTS TO BE MORE CONNECTED TO THEIR TICKET.


WHAT'S MORE, THE HIGH INVOLVEMENT PROCESS CREATED AN ILLUSION OF CONTROL.
AND THIS ILLUSION OF CONTROL MADE THE PARTICIPANTS BEHAVE AS IF THEIR NUMBERS WERE SPECIAL.

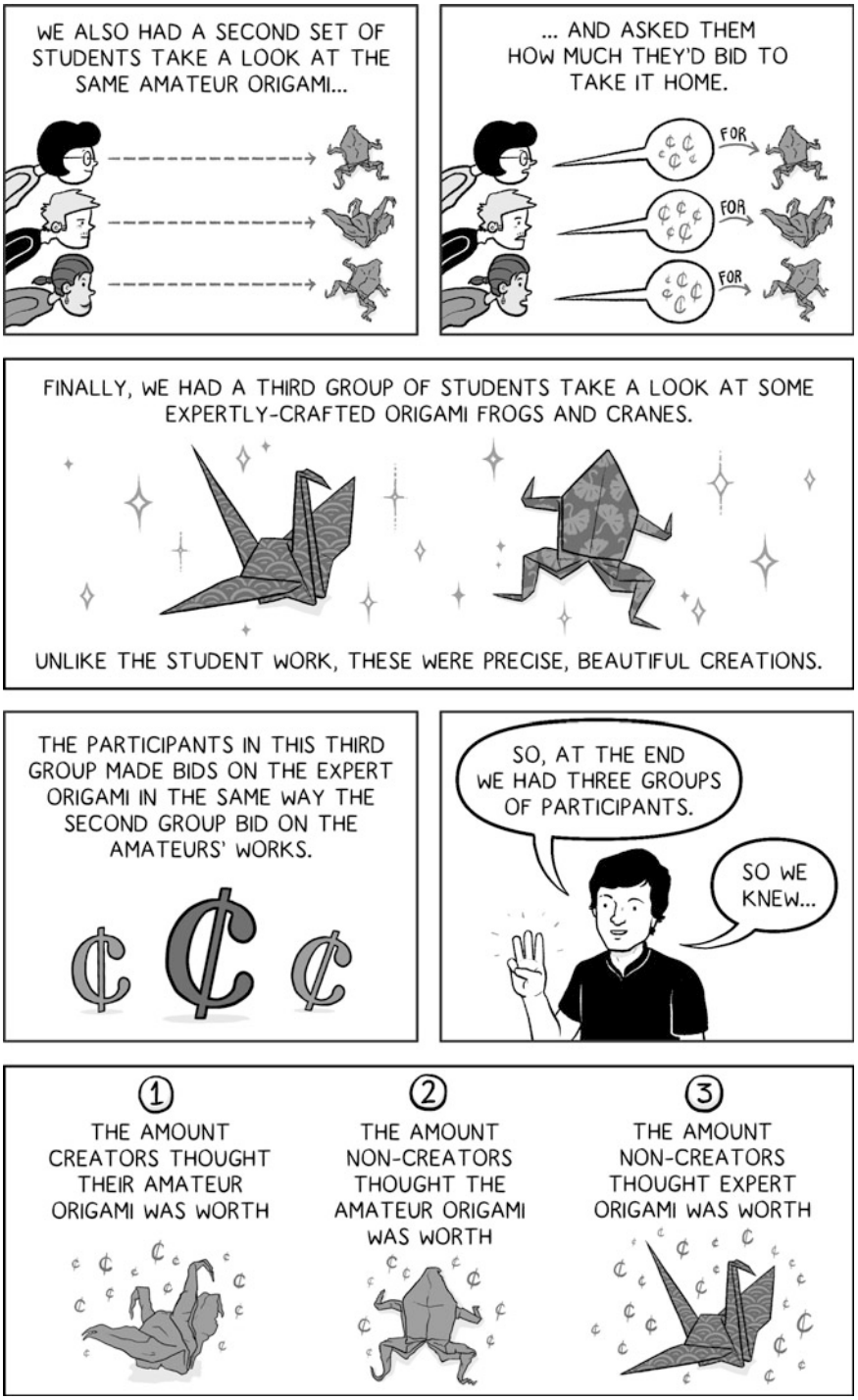

HI ELLEN! MAY I INTERJECT?
OH, OF COURSE!
I'M DAN ARIELY, AND I MUST SAY THOSE ARE SOME FASCINATING RESULTS!
I WAS MOST STRUCK NOT BY THE DIFFERENCE BETWEEN YOUR CONDITIONS, BUT THAT ANYONE HELD ONTO THE INFERIOR TICKET IN THE FIRST PLACE!
BY NOW YOUR RESEARCH HAS BEEN FURTHER EXPLORED, LEADING TO WHAT IS CALLED "THE ENDOWMENT EFFECT."
IT'S A FORM OF IRRATIONAL ATTACHMENT BASED ON OUR TENDENCY TO THINK IN TERMS OF WHAT WE HAVE TO LOSE...
...AND WHY WE OVERVALUE AN OBJECT ONCE IT'S IN OUR POSSESSION.
MOST STUDIES ON THE ENDOWMENT EFFECT ARE LAB-BASED.
HOWEVER, IN 1994 I STUMBLED ON A WAY TO STUDY THE ENDOWMENT EFFECT IN AN IMPORTANT REAL LIFE CONTEXT: BASKETBALL.

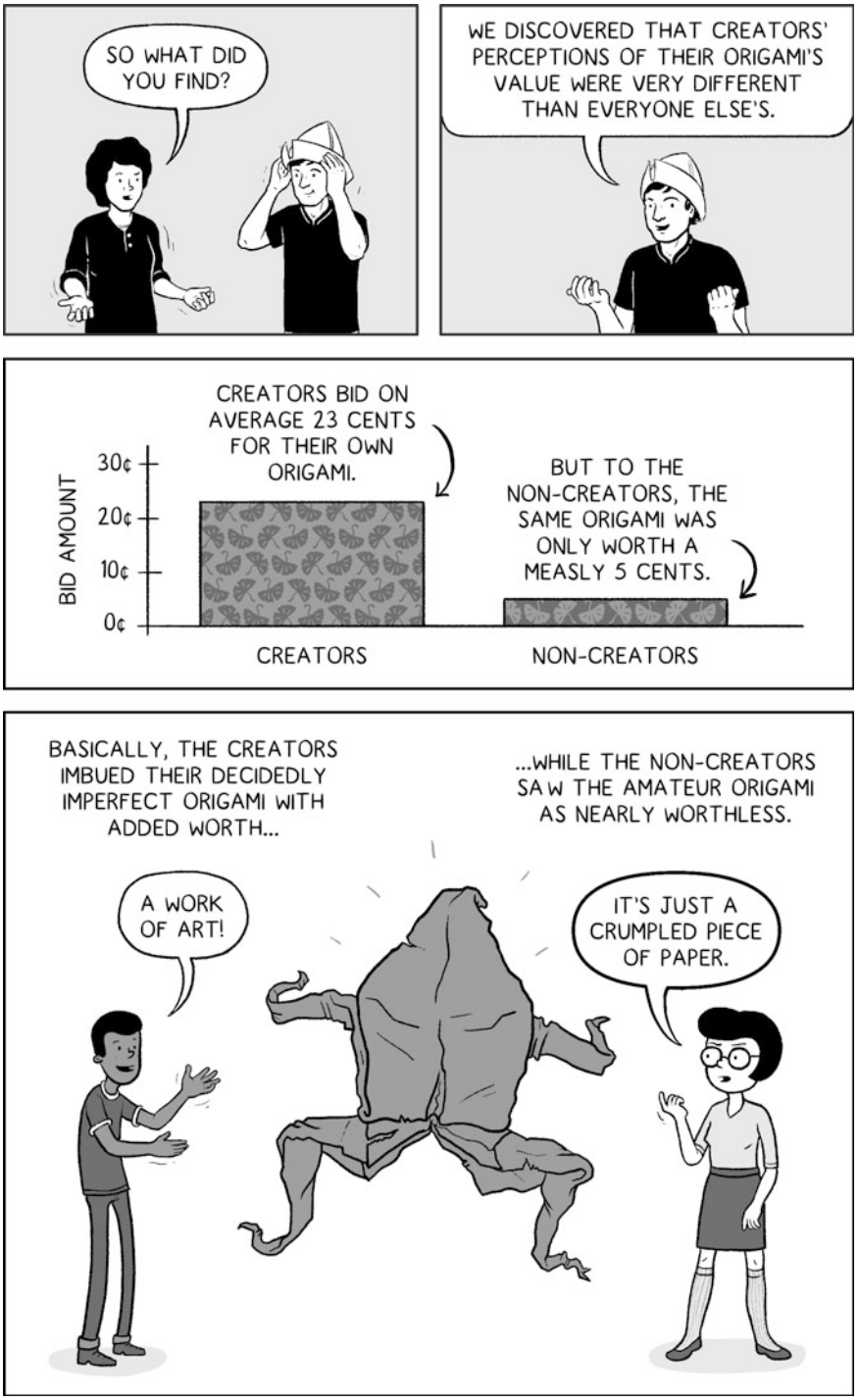

DURING THE SPRING, HUNDREDS OF STUDENTS CAMP IN TENTS OUTSIDE THE DUKE UNIVERSITY BASKETBALL STADIUM, NIGHT AND DAY, RAIN OR SHINE.
BEFORE IMPORTANT GAMES, THE CAMPERS ARE ENTERED INTO A LOTTERY FOR THE PRIVILEGE OF BEING ABLE TO BUY A TICKET.
ZIV CARMON AND I SAW THIS AS AN EXCELLENT OPPORTUNITY TO CONDUCT A FIELD EXPERIMENT.
ZIV
SEE, THE GAME TICKETS WERE VERY IMPORTANT TO EVERYONE CAMPING OUT.
BUT AFTER THE LOTTERY, CAMPERS WERE RANDOMLY DIVIDED INTO TWO CONDITIONS: TICKET OWNERS AND NON-OWNERS.
WOULD THOSE WHO WON TICKETS VALUE THEM DIFFERENTLY THAN THOSE WHO DIDN'T GET LUCKY IN THE LOTTERY?
WE CALLED UP THE STUDENTS THE DAY AFTER THEY LEARNED OF THE LOTTERY RESULTS A DAY BEFORE THE NCAA FINAL FOUR GAME, AN EVENT THAT ANY TRUE FAN WOULD BE DYING TO ATTEND.
DEPENDING ON THE CONDITION, WE ASKED THE PARTICIPANTS SLIGHTLY DIFFERENT QUESTIONS.

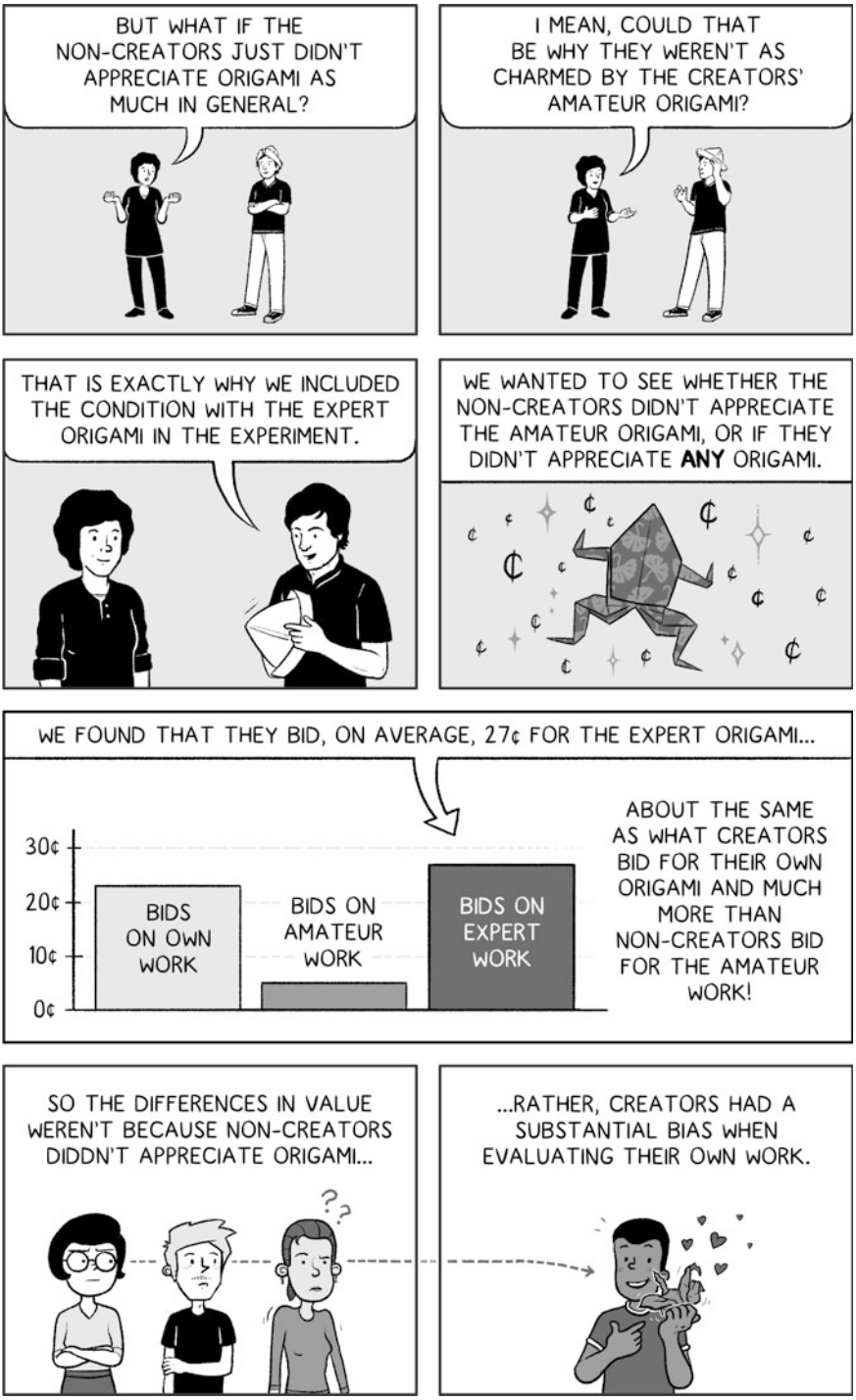

TICKET OWNER CONDITION:
WHAT'S THE LOWEST PRICE FOR WHICH YOU'D BE WILLING TO SELL YOUR TICKET?
TICKET NON-OWNER CONDITION
WHAT'S THE HIGHEST PRICE YOU'D BE WILLING TO PAY FOR A TICKET?
HERE'S WHAT WE FOUND: THERE WAS A BIG GAP BETWEEN WHAT BUYERS WERE WILLING TO PAY AND WHAT SELLERS WERE ASKING. IN FACT, NOT A SINGLE TICKET OWNER WAS WILLING TO SELL THEIR TICKET AT A PRICE THAT A NON-OWNER WAS WILLING TO PAY.
BUYERS
SELLERS
ON AVERAGE, THE MINIMUM SELLING PRICE WAS 14 TIMES LARGER THAN THE MAXIMUM BUYING PRICE.
$170
$2410
MAXIMUM BUYING PRICE
MINIMUM SELLING PRICE
EXACTLY AS MY RESEARCH PREDICTS!

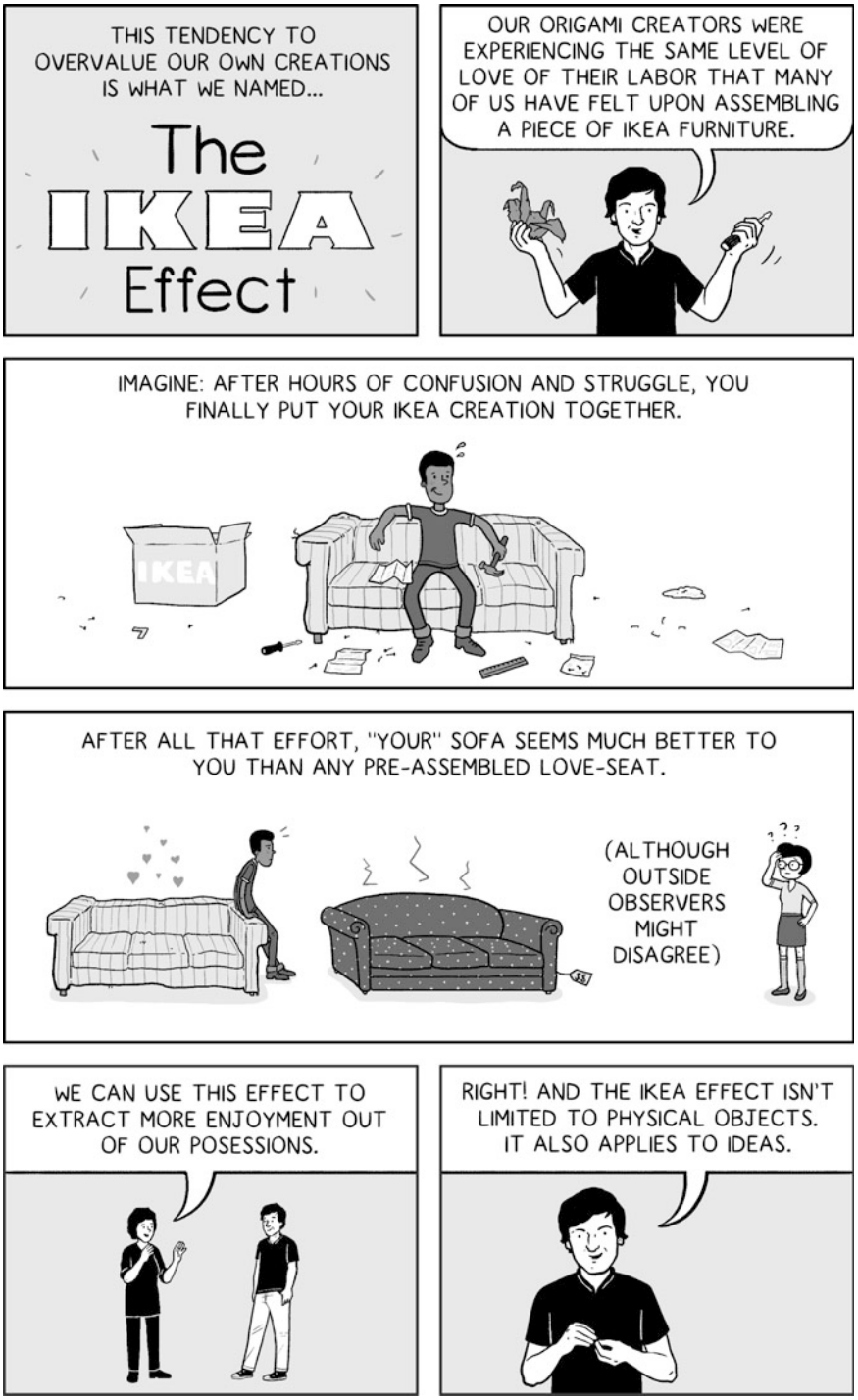

THE TWO GROUPS ALSO GAVE VERY DIFFERENT REASONS FOR THEIR STATED PRICES. OWNERS EMPHASIZED THE IMPORTANCE OF EXPERIENCING THE GAME FOR THEIR LIVES.
$$$
NON-OWNERS INSTEAD FOCUSED ON THE MONEY INVOLVED.
THIS IS INCONSISTENT WITH RATIONAL THINKING, SINCE IN PRINCIPLE, VALUATIONS SHOULD NOT BE AFFECTED BY OWNERSHIP.
IN OTHER WORDS, AN OBJECT SHOULD BE WORTH THE SAME AMOUNT TO YOU, WHETHER IT'S IN YOUR HANDS OR SOMEONE ELSE'S.
AND YET, SOMEHOW WE STILL FEEL IRRATIONALLY ATTACHED TO THE THINGS WE OWN AND IMBUE THEM WITH ADDITIONAL VALUE.
mine mine mine mine mine mine
FASCINATING!
YES...
...AND WE CAN TAKE THIS CONCEPT EVEN FURTHER.

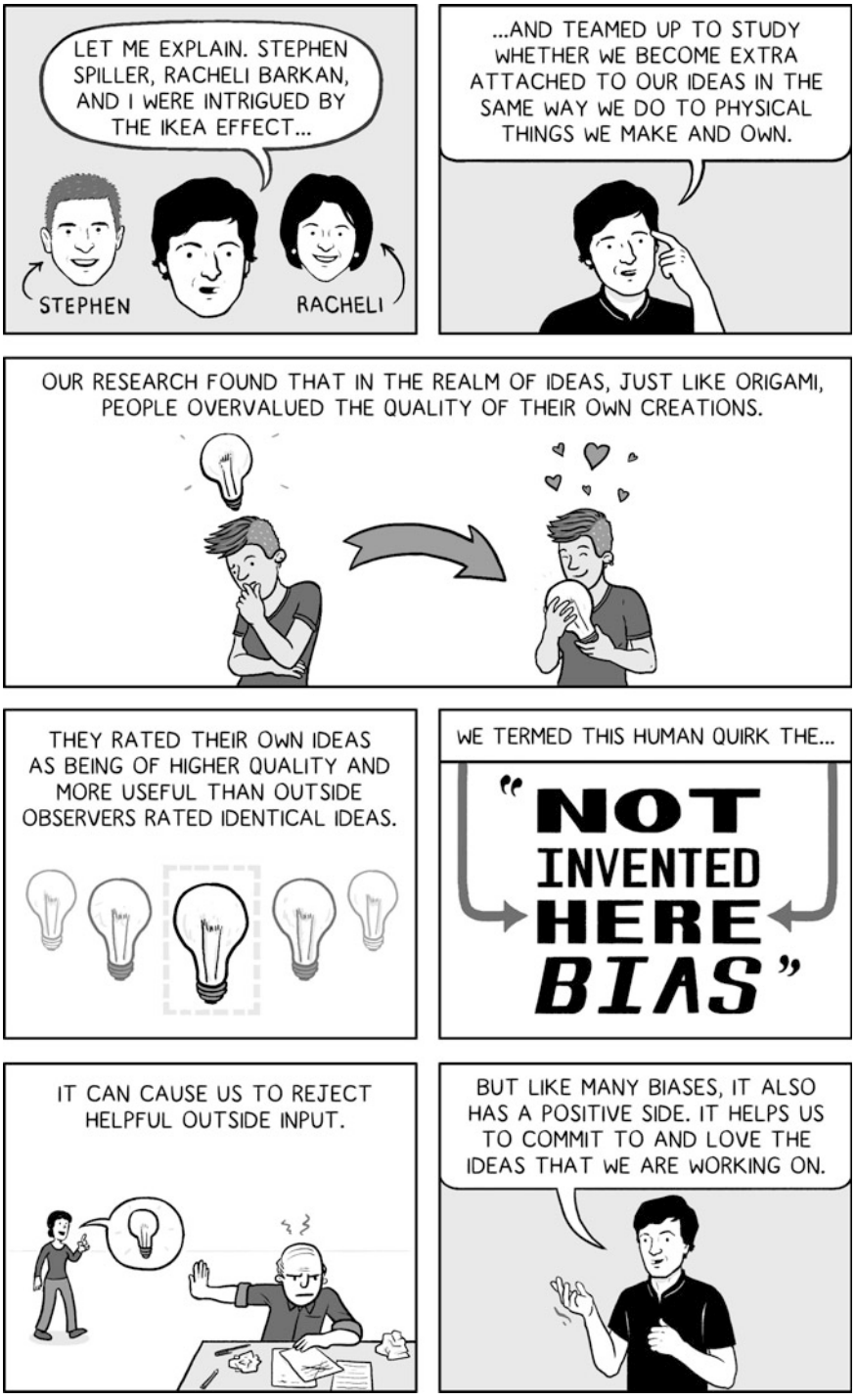

WE KNOW THAT OWNERSHIP LEADS TO OVERVALUATION – BUT WHAT ABOUT INVESTING MORE EFFORT INTO THE CREATION OF A PRODUCT?
MIKE NORTON, DANIEL MOCHON, AND I CONDUCTED A STUDY TO TEST WHETHER LABOR TRULY LEADS TO LOVE.
MIKE
DANIEL
WE SET UP AN ORIGAMI STAND AT THE STUDENT CENTER AT HARVARD.
CRANE
FROG
WE HAD OUR FIRST GROUP OF PARTICIPANTS FOLD A PIECE OF ORIGAMI INTO EITHER A CRANE OR A FROG.
WE GAVE OUR ORIGAMI CREATORS INSTRUCTIONS, PAPER, AND AS MUCH TIME AS THEY NEEDED.
EVENTUALLY...
TADA!
THEIR RESULTS WERE OFTEN A BIT CRUMPLED AND ASYMMETRICAL...
THEN WE HAD THEM BID FOR THEIR WORK IN A SIMPLE AUCTION.
I'D PAY 60¢ TO OWN IT!


WE ALSO HAD A SECOND SET OF STUDENTS TAKE A LOOK AT THE SAME AMATEUR ORIGAMI...
... AND ASKED THEM HOW MUCH THEY'D BID TO TAKE IT HOME.
FOR
FOR
FOR
FINALLY, WE HAD A THIRD GROUP OF STUDENTS TAKE A LOOK AT SOME EXPERTLY-CRAFTED ORIGAMI FROGS AND CRANES.
UNLIKE THE STUDENT WORK, THESE WERE PRECISE, BEAUTIFUL CREATIONS.
THE PARTICIPANTS IN THIS THIRD GROUP MADE BIDS ON THE EXPERT ORIGAMI IN THE SAME WAY THE SECOND GROUP BID ON THE AMATEURS' WORKS.
¢ ¢ ¢
SO, AT THE END WE HAD THREE GROUPS OF PARTICIPANTS.
SO WE KNEW...
1
THE AMOUNT CREATORS THOUGHT THEIR AMATEUR ORIGAMI WAS WORTH
2
THE AMOUNT NON-CREATORS THOUGHT THE AMATEUR ORIGAMI WAS WORTH
3
THE AMOUNT NON-CREATORS THOUGHT EXPERT ORIGAMI WAS WORTH


SO WHAT DID YOU FIND?
WE DISCOVERED THAT CREATORS' PERCEPTIONS OF THEIR ORIGAMI'S VALUE WERE VERY DIFFERENT THAN EVERYONE ELSE'S.
CREATORS BID ON AVERAGE 23 CENTS FOR THEIR OWN ORIGAMI.
BUT TO THE NON-CREATORS, THE SAME ORIGAMI WAS ONLY WORTH A MEASLY 5 CENTS.
BID AMOUNT
30¢
20¢
10¢
0¢
CREATORS
NON-CREATORS
BASICALLY, THE CREATORS IMBUED THEIR DECIDEDLY IMPERFECT ORIGAMI WITH ADDED WORTH...
...WHILE THE NON-CREATORS SAW THE AMATEUR ORIGAMI AS NEARLY WORTHLESS.
A WORK OF ART!
IT'S JUST A CRUMPLED PIECE OF PAPER.


BUT WHAT IF THE NON-CREATORS JUST DIDN'T APPRECIATE ORIGAMI AS MUCH IN GENERAL?
I MEAN, COULD THAT BE WHY THEY WEREN'T AS CHARMED BY THE CREATORS' AMATEUR ORIGAMI?
THAT IS EXACTLY WHY WE INCLUDED THE CONDITION WITH THE EXPERT ORIGAMI IN THE EXPERIMENT.
WE WANTED TO SEE WHETHER THE NON-CREATORS DIDN'T APPRECIATE THE AMATEUR ORIGAMI, OR IF THEY DIDN'T APPRECIATE ANY ORIGAMI.
WE FOUND THAT THEY BID, ON AVERAGE, 27¢ FOR THE EXPERT ORIGAMI...
30¢
20¢
10¢
0¢
BIDS ON OWN WORK
BIDS ON AMATEUR WORK
BIDS ON EXPERT WORK
ABOUT THE SAME AS WHAT CREATORS BID FOR THEIR OWN ORIGAMI AND MUCH MORE THAN NON-CREATORS BID FOR THE AMATEUR WORK!
SO THE DIFFERENCES IN VALUE WEREN'T BECAUSE NON-CREATORS DIDDN'T APPRECIATE ORIGAMI...
??
...RATHER, CREATORS HAD A SUBSTANTIAL BIAS WHEN EVALUATING THEIR OWN WORK.


THIS TENDENCY TO OVERVALUE OUR OWN CREATIONS IS WHAT WE NAMED...
The IKEA Effect
OUR ORIGAMI CREATORS WERE EXPERIENCING THE SAME LEVEL OF LOVE OF THEIR LABOR THAT MANY OF US HAVE FELT UPON ASSEMBLING A PIECE OF IKEA FURNITURE.
IMAGINE: AFTER HOURS OF CONFUSION AND STRUGGLE, YOU FINALLY PUT YOUR IKEA CREATION TOGETHER.
IKEA
AFTER ALL THAT EFFORT, "YOUR" SOFA SEEMS MUCH BETTER TO YOU THAN ANY PRE-ASSEMBLED LOVE-SEAT.
(ALTHOUGH OUTSIDE OBSERVERS MIGHT DISAGREE)
WE CAN USE THIS EFFECT TO EXTRACT MORE ENJOYMENT OUT OF OUR POSESSIONS.
RIGHT! AND THE IKEA EFFECT ISN'T LIMITED TO PHYSICAL OBJECTS. IT ALSO APPLIES TO IDEAS.


LET ME EXPLAIN. STEPHEN SPILLER, RACHELI BARKAN, AND I WERE INTRIGUED BY THE IKEA EFFECT...
STEPHEN
RACHELI
...AND TEAMED UP TO STUDY WHETHER WE BECOME EXTRA ATTACHED TO OUR IDEAS IN THE SAME WAY WE DO TO PHYSICAL THINGS WE MAKE AND OWN.
OUR RESEARCH FOUND THAT IN THE REALM OF IDEAS, JUST LIKE ORIGAMI, PEOPLE OVERVALUED THE QUALITY OF THEIR OWN CREATIONS.
THEY RATED THEIR OWN IDEAS AS BEING OF HIGHER QUALITY AND MORE USEFUL THAN OUTSIDE OBSERVERS RATED IDENTICAL IDEAS.
WE TERMED THIS HUMAN QUIRK THE...
"NOT INVENTED HERE BIAS"
IT CAN CAUSE US TO REJECT HELPFUL OUTSIDE INPUT.
BUT LIKE MANY BIASES, IT ALSO HAS A POSITIVE SIDE. IT HELPS US TO COMMIT TO AND LOVE THE IDEAS THAT WE ARE WORKING ON.


SO WE DISCOVERED THAT WE CAN BECOME IRRATIONALLY ATTACHED TO THINGS...
...FROM TICKETS, TO ORIGAMI, TO IDEAS.
LOTTERY
FROM THE ENDOWMENT EFFECT...
TO THE IKEA EFFECT...
TO THE NOT INVENTEED HERE BIAS...
MUCH OF THIS WOULD HAVE BEEN IMPOSSIBLE WITHOUT ONE IMPORTANT THING...
YOUR ORIGINAL PAPER ON LOTTERY TICKETS AND THE ILLUSION OF CONTROL!
AND DON'T FORGET THAT ONE FATEFUL POKER GAME.
OF COURSE!


YOUR WORK FOREVER CHANGED HOW WE THINK ABOUT OWNERSHIP AND INSPIRED MANY LINES OF NEW RESEARCH.
OF COURSE, IT IS ONLY NATURAL THAT MANY OTHER RESEARCHERS, INCLUDING ME, NOW CONSIDER THESE IDEAS AS OUR OWN.
SO WE'VE GOT TO SAY...
THANKS, ELLEN!

Author Biographies

Dan Ariely is the James B. Duke Professor of Psychology and Behavioral Economics at Duke University. In addition to appointments at the Fuqua School of Business, the Center for Cognitive Neuroscience, the Department of Economics, and the School of Medicine at Duke University, Dan is a founding member of the Center for Advanced Hindsight and the author of the New York Times bestsellers Predictably Irrational, The Upside of Irrationality, and The Honest Truth About Dishonesty. His interests span a wide range of behaviors, and his unusual experiments are consistently interesting, amusing and informative, demonstrating profound ideas that fly in the face of common wisdom.

Matt Trower is a comic artist and illustrator who has been working with Dan Ariely at the Center for Advanced Hindsight since 2013. Matt received their BFA in Illustration from Rhode Island School of Design, concentrating in Gender, Sexuality, and Race. Matt is proud to make drawings inside (and sometimes outside) of boxes for a living.

Aline Grüneisen is Director of Outreach, Development, and Special Ops at the Center for Advanced Hindsight, as well as its Startup Lab Director. She received her MBA from the Fuqua School of Business in 2015, previously acquiring her BA in psychology from Reed College. In her free time, she enjoys balloons, living room dance parties, and cooking with more vegetables than non-vegetables. She is overly attached to her umlaut.

Mindful Dissent

Stuart Albert

Professor Ellen Langer is a brilliant and special kind of magician. She takes the illusions we live by—illusions that limit us—and discloses the powerful reality they conceal, which makes it possible for us to engage the world in new ways and accomplish what we thought was impossible. Hers is a psychology of possibility. To view the world through Langer's eyes is to see what is missed if not actively denied by conventional and overly rigid thinking. In this Chap. 1, want to illustrate a particular problem that seems to have no solution. But when we consider the problem mindfully, a path opens up.

The Meeting[1]

Imagine that you work for a small pharmaceutical company and are present at the following meeting. The head of the company, let's call him Tom, has called the meeting to decide whether to market the company's new product, a weight-reducing pill. Tom sits stiffly at the head of a small conference table. To his right is

[1]This analysis follows closely from Albert (2001) and Chap. 7 of When: the Art of Perfect Timing. The meeting that is described is from a 16 mm black and white film on group process that is no longer available. I believe the distributor was McGraw Hill, but I cannot be sure. The title might have been, Victims of Group Think.

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S.M. Fatemi (ed.), *Critical Mindfulness*, DOI 10.1007/978-3-319-30782-4_6

Phil, the director of marketing. To Phil's right is Harriet, the company lawyer. On the other side of the table is Dick, also a lawyer who deals with the FDA, and Jerry, who runs the company's R and D lab.

After the small talk quiets down, Tom opens the meeting by saying that "We have only one item to discuss today, and I think we can wrap that up rather briefly, whether or not to proceed with the marketing of Biritonin, our new weight-reducing drug." He goes on to talk about the potential of the drug for the future of the company, but then pauses to say that "some outside test reports have come in that are not completely positive," and that he wants them "brought up to date." But he then turns to Phil, and asks for an update on the marketing strategy.

Phil talks mostly about market share. He estimates that the drug should capture 20 % of the market a very short amount of time. He smiles as he anticipates how profitable the drug is going to be, and jokes about losing some weight himself. He reminds everyone of the memo he sent out detailing the full market strategy.

No one appears to have any questions, so Harriet asks about the competition. Phil replies that there is no immediate competitive threat. Perhaps some years down the road, there will be a 'me too' product, but not in the short term.

Tom asks Dick about the FDA. Dick replies that everything is set to go. We have all the necessary clearances, he says. We've doted all the i's and crossed all the 't's'.

Now Tom returns to the outside test reports, the ones that apparently point to some potentially troubling side effects. Tom turns to Jerry. "Jerry, as the house pessimist, how to you read those reports?"

Jerry pauses. He says that some tests report very serious side effects. When questioned, he mentions blood clots, dizzy spells, vomiting, etc. The group goes back and forth regarding how serious they are. Some question the competence of the doctors who conducted the tests. Tom, being data driven, wants to know what percentage of the tests are troubling. Jerry says about 5 %. Tom then turns to Harriet and asks about limitability. Harriet hedges. She says that she would prefer the company conduct additional tests before going ahead with marketing. Phil jumps in and tries to silence her. Risks are inevitable, he says. If the company pursued a policy of zero risks, the whole industry would still be making just aspirin.

Tom is made uncomfortable by this exchange. He jumps into calm things down, saying that "Harriet wasn't trying to upset the apple cart." He turns to Dick, and asks about Dr. Heller, the company's chief research scientist, who wanted to attend the meeting. Dick, his boss, denied the request. Basically, Heller's views are his alone, Dick tells everyone. The others in his group are positive. Harriet, seeing how the winds are blowing, expresses the view that overall, the benefits far out weight the risks.

Tom pauses, and waits a moment for anyone else to speak. All right, he says, its unanimous. We go with it. And with those words, Tom rises and the meeting comes to an end.

There is obviously a lot happening between the lines, but that is the essence of the meeting.

The Analysis

For many years, I read a more detailed transcript of this meeting to groups of students and executives and asked them to give the speech that would stop the drug from being marketed, and at the same time, protect their job and gain the approval of everyone in the room including Tom. The task proved impossible. No one was able to do it. Most, simply remained silent.

In some respects, this task is like Solzhenitsyn's dilemma. In the Gulag Archipelago, he described his arrest as follows:

> At what exact point, then should one resist? When one's belt is taken away? When one is ordered to face into a corner? When one crosses the threshold of one's home? An arrest consists of a series of incidental irrelevancies, of a multitude of things that do not matter, and there seems to be no point in arguing about any one of them individually—especially at a time when the thought of the person arrested are wrapped tightly about he big question: "What for?"—and yet all these incidental irrelevancies taken together implacably constitute the arrest.[2]

In Solzhenitsyn's arrest, as in the meeting described above, no time that seems right to object to what is being done. Yet, when we approach the problem of dissent mindfully, we can begin to envision a series of comments that can at least pause the process, and stop the immediate marketing of the drug.

The starting point, of course, is to recognize the serious risks the company was running by going ahead. Given the number of people who are obese and a projected 20 % market share, the number of people who would be taking this drug is, forgive the pun, quite large. Side effects, some potentially lethal, were estimated to be about 5 %. But 5 % of a large number is a very large number. With potentially hundreds of deaths, the company would be facing a PR disaster. The sales of its other drugs—if we assume that this is not their only product—would be put in jeopardy. There is no reason not to pause, particularly when the company's chief research scientist, excluded from the meeting, may have serious reservations.

The Conventinonal Wisdom

It is hard to imagine a company making a decision to launch a new product in the manner described, but we have all been in dysfunctional meetings, and seen decisions made that should never have been made.

There are many ways to think about what went wrong. Perhaps there was a flawed decision making process; there seems to be a rush to judgment; alternatives that should have been considered were not sufficiently explored. Some would point

[2]Aleksandr I. S. (1973). *The Gulag Archipelago*, New York, Harper and Row.

to a failure of leadership, including a company culture that stifles dissent. Others might point to a lack of courage. Once the risks were obvious, someone needed to speak up and insist that the process be paused. There is merit in all of these views, but there is another way to approach the problem.

The Elements of a Mindful Approach

Langer tells us that being mindful involves sensitivity to context (Langer 2014: 37–44). Change the context and new options for effective action emerge. There are many kinds of contexts: social, cultural, historical, organizational, political, economic, etc. In this chapter, I want to focus on a universal context, one that is present in every situation, but which, for any number of reasons, is rarely fully seen or appreciated, namely the temporal context of the meeting itself. To find and explore that context requires what Langer calls "new categories for structuring perception," (Langer 2014: 65–67). In this example, we will use a set of six 'lenses' as a way to discover aspects of temporal context we might otherwise miss. That will allow us, at the end of this chapter, to assemble the rudiments of what a successful 'speech' might look like. Here are the lenses in summary form.[3]

- **The Sequence Lens:** This lens directs our eye to the order of events, to what follows, or should follow, what.
- **The Temporal Punctuation Lens:** This lens directs our attention to when events begin, pause, or come to an end. Temporal punctuation functions like linguistic punctuation, inserting commas, periods, etc., into what would otherwise be a continuous stream of action or events.
- **The Interval/Duration Duration Lens:** This lens draws out attention to how much time elapses between events (the length of an interval), and how long any given event will last or take (its duration).
- **The Rate Lens:** This lens directs our attention to how quickly events are happening. Some processes or conditions develop quickly, others more slowly.
- **Shape:** This lens directs our attention to different rhythms and other patterns of movement, such as cycles, feedback loops, etc.
- **Polyphony:** The polyphony lens directs our attention to parallel processes. Each process has its own trajectory and relationship with those going on at the same time.

Looking at the meeting through each of these lenses will help clarify why dissent is difficult, and what can be done to overcome that difficulty.

[3]Each is described in some detail in Albert S, When: the Art of Perfect Timing, Jossey Bass, San Francisco, September 2013.

The Sequence Lens

Tom opened the meeting by saying: "We have only one item to discuss today, and I think we can wrap that up rather briefly." When I read that statement to an audience of experienced executives, everyone knows that the decision has already been made. The normal sequence of events in a true decision-making meeting is to first discuss the issues involved, and then, at the end, come to a decision. Questions can be raised and alternatives explored before a decision is made. But once an issue has been decided, dissent is literally "out of order,"—unless of course, one wants to confront authority, and possibly put one's job on the line. Tom has effectively inverted the normal sequence of a decision-making process, and by doing so, made dissent virtually impossible.

There are at least three approaches to sequence inversion problems. One could actively challenge the sequence. One could say that although it seems as if the decision has been made, the issue should be kept open. One would argue that further discussion is necessary. Doing that however, would be a direct challenge to Tom's authority. And no one in the room wants to do that.

Another option is to chance the time scale. As Langer points out, mindfulness is about seeing something new. Usually, that means looking at a process at a finer level of detail. But the reverse is also possible. One can achieve novelty by removing a distinction, by pointing out, that from another perspective, a distinction doesn't matter. So someone might say: "When we look back at this decision five years from now, whether we make this decision now on in the next several weeks will be less important than getting it right."

A third option is to change perspective, a point that Langer makes repeatedly as a hallmark of a mindful thinking, e.g., Langer and Piper 1987. In this example, that means realizing that the meeting has two different purposes. The first is to make—or actually ratify a decision that has already been made. The second is to 'be brought up to date.' If purpose of the meeting is to make a decision, then the window for dissent is closed. But if the purpose is an exchange of information, to be 'brought up to date', then it is natural to ask for more information. Fortunately, Tom has embraced both purposes. That allows individuals who want to pause and gather more information to highlight the informational rather than the decision making purpose of the meeting.

The Temporal Punctuation Lens

When faced with complex and uncertain events, someone might say, "Could we pause for moment (in effect inserting a punctuation mark) to see where we are. There are a lot of complex issues here". When something seems to be moving too quickly in the wrong direction, the task is to insert a pause, and complexity of the issues involves provides a rationale for doing so.

Temporal punctuation not only separates by inserting a pause or a full stops, it also groups actions together like the words that huddle together to form this sentence between the capital 'T' that began the sentence and the period that ends it. The grouping function reveals another opportunity to reframe what is going on in the meeting. The meeting can be viewed as the last step of a past process (grouping the present moment with the past), or the first step of a new future process (grouping the present moment with the future). If the meeting is seen as the last step of a long process of drug development, that could easily create a sense of impatience. "It's time to market the drug, to finally reap the rewards," someone could say. On the other hand, marketing the drug could be viewed as the first step in a future process, one that might find other uses for the drug, for example. Since the future is inherently uncertain—if the drug were found to have lethal side effects soon after it was introduced, it might have to be withdrawn. Hence, caution should prevail. First impressions matter.

Temporal punctuation is also needed to stop a process, that if it got started, would result in the dissenter being marginalized or rejected from the group. One way to do that is to point out that to pause the process supports deeply held group values, such as the norm that 'we do not rush to judgment.'

Finally, deadlines are common punctuation marks. They ensure that a pause does not continue indefinitely. If more information is needed, the group can set a deadline for obtaining it.

The Interval-Duration Lens

Langer is a master at reframing, like her example of a maid who thinks of her work as exercise, and reaps the health benefits of that reframing. One can also reframe the meaning of an interval of time and not merely its contents. In this example, the same period of time can be viewed as an early warning system that worked (a positive outcome), rather than as a delay (from Tom's perspective, a negative outcome).

The Interval-Duration Lens directs our attention to how long things last or take. That makes it possible to compare different lengths of time. What is a short or a long interval is relative. Thus, someone could ask: "How long would take us to recover—possibly years—if the drug turns out to have more serious side effects than we anticipated, compared with the relatively short amount of time it would take us for us to check with Heller on this side effect issue?"

Another interval that is important is the time between when a problem is discovered and the time it is resolved. In general, we want this interval to be as small as possible, especially when the problem is serious. Threats should be dealt with immediately. Thus, if someone can find a threat, such as a group norm that is being violated, the person can raise a 'point of order.' As Robert's Rules of Order makes clear, a point of order is always in order. Thus, someone could point out that if lot of people will be taking the drug *in a relatively short amount of time*, it is prudent to

pause. Achieving a large market share quickly is a double edged sword: it either brings the company immediate profit, or immediate and potentially serious problems.

When Tom began the meeting by saying, that "we have only one item to discuss today, and *I think we can wrap that up rather briefly*," we know that he expects a short meeting. Dissent risks prolonging the meeting. One possible solution is to play the devil's advocate. When someone says, 'Let me for a moment, play the devils' advocate,' we know his comments will be time limited, and that the person is intends to be constructive.

The Rate Lens

In this example, the Rate Lens and the Interval Lens do not differ in what they reveal; what is slow takes longer than what is fast. The meeting I have described has a fast pace. There will be no long pauses, no mental yoga mats on which ideas can stretch out and be considered from different angles. As I mentioned, one option is to use the fast pace, and the complexity of the issues being discussed, to justify a summary of the issues. Summaries are like commas; they reduce speed. Another is to point out that because we can act quickly, we can pause the process, precisely because we are efficient.

The Shape Lens

A detailed consideration or drug safety involves will multiple actors. The resulting discussion among the lawyers, the marketing people, the scientists, etc., is likely to go back and forth over the same issues. When that happens, the meeting can feel as if it is departing from the fastest preferred shape, which is linear. That will raise tension among those who want the issue decided. We also know that drugs take a long time to develop. Many fail, and so it is natural for them to be build up tension after a long and difficult process. The result can be a rush to judgment, 'a premature cognitive commitment.' By anticipating, that tension will rise as the meeting goes on, one is better prepared to defend against its probable consequences, namely, a quick decision just to 'get the issue over with.'

The Polyphony Lens

When we look at the world through the Polyphony Lens we look for parallel processes. For example, a person could volunteer to follow-up with Dr. Heller, "just to keep him in our good graces—after all he is our best scientist." That action keeps

the door open to a different decision—if only just a crack—based on what Heller might say. A change in perspective, in this case, finding another purpose, keeping Heller happy, justifies the parallel activity. The meeting ends with a 'soft' punctuation mark, one that allows two processes to go forward in parallel, preparations to market the drug, and a follow-up with Heller.

Towards Mindful Dissent

We cannot know exactly what might work in the meeting described at the beginning of this chapter. For one, we lack information. We don't know the history of this particular group, or the history of the company as whole. Who are its competitors? How successful has the company been in the past with product launches? What other drugs, if any, are in the pipeline, etc. We also don't know the body language or the tone of voice being used in the meeting. Nonetheless, it is possible to envision what might be said. Ellen Langer reminds us to focus on process. We should ask not *whether* an objection to marketing the drug is possible, but *how* an objection could be raised and be effective.

Below is one example[4] As you read it, you will recognize the source of the statements the comprise it.

> Well, it's clear that we all want this product to succeed. [Pause] But correct me if I'm wrong Phil, but didn't you say that you expect a 20 % market share in only a few years. That's terrific. That's an awful lot of people and an awful lot of profit. [Pause] But, as I think about it if even a small percentage of people have serious side effects that could be a problem. After all a small percentage of a large number is a large number. We could have hundreds of people ill because of this drug. And if that happened all of our other products would also be affected. Our reputation would be on the line. But, wait a second, didn't you say Tom that the purpose of this meeting was to be brought up to date. We've been acting as if we have to make a decision right this minute. When we look back at this decision five years from now the most important thing will be whether we made the right decision, not what day or week we decided it. In fact, the faster we achieve significant market share, the greater our risk if there really is a problem with side effects. And that could affect our next fiscal year in a very significant way. It seems to me that if we are this close to that much risk, it is prudent to invest no more than a few weeks as an insurance policy just to make sure that these side effects are not the tip of iceberg. What we really have here in this data is early warning system that worked. Maybe it is a false alarm, but I am glad to find out about a possible problem now than after the drug is out on the market. We should weight the risk associated with a slight delay now against the time it would take us to recover if the drug has more serious side effects than we anticipated. Once the drug is out there, a lot of things will be out of our control. It is prudent to pause. But we don't want to be held up forever, so let's estimate of how long it will take us get closure on this issue, and then set a deadline.

We cannot know whether the above set of comments would work, but we know that we are further along the path to finding something that might.

[4]This example is taken from Albert (2013: 209-210) with modifications.

Everything we do has a temporal context: every thing takes time, unfolds in some kind of order, at a given rate of speed, which may change, in the presence of other events and processes, that are going on at the same time, each having their own sequential development, etc. For the most part, the temporal context of events lies beneath the surface. We need to look for it, which is what the lenses help us do. They bring to the surface what other frameworks and models miss or mention only in passing. There are many kinds of contexts, and hence potential reframings for what we or others do. Temporal context, being universal, is always available as a place in which to search for new distinctions and relationships offering new possibilities for action, especially when conventional paths seem blocked. The search for what is possible is the guiding spirit of Ellen Langer's work. It couldn't be more needed in today's world.

References

Albert, S. (2001). The Timing of Dissent. *Leader to Leader, 22*(Fall), 34–45.
Albert, S. (2013). *When: The Art of Perfect Timing*. San Franscico, CA: Jossey Bass.
Langer, E. (2014). *Mindfulness*. 25th anniversary edition (A Merloyd Lawrence Book) Philadelphia, Pa: Da Capo Press.
Langer, E., & Piper, A. (1987). The Prevention of Mindlessness. *Journal of Personality and Social Psychology, 53*, 280–287.
Solzhenitsyn, A (1973). The Gulag Archipelago, New York, Harper and Row.

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Stuart Albert is Associate Professor in the Department of Strategic Management and Entrepreneurship at the Curtis L. Carlson School of Management at the University of Minnesota. He has given invited keynote addresses on timing both in the United States and Europe, and has lectured on timing in Latin America. He is the author *When: The Art of Perfect Timing*, the product over 20 years of research. This book is designed to help us think through when to act in any context or situation. When do windows open and when do they close for different kinds of actions? *When* was named one of the best business books in August 2013 by Amazon. He has worked with a range of companies and industries, from small start ups to large multinationals, to better understand and manage issues of time sensitive opportunities and risks. He has been a visiting professor at MIT, a visiting scholar at Harvard, and is the author of numerous articles on timing and other matters. He has edited a book on the endings of wars. He is a member of the Academy of Management and International Society for the Study of Time. He holds one patent, and is at work on a second volume dealing with how we make, and should make, decisions about timing in a complex and uncertain world.

Psychobiography as a Means to Understanding Langer's Contributions to Psychological Science

Jack Demick

Introduction

Trained as a generalist committed to the view of psychology as a unified science, I have recently completed a volume (Demick in press) suggesting how, even in a Zeitgeist favoring specialization, a generalist view may still be possible. In a related vein, one of my most cited publications (Demick 2000) is an article entitled, "Toward a Mindful Psychological Science: Theory and Application" appearing in the *Journal of Social Issues* in which I argued that Langer's theory of mindfulness has the potential to become a unifying framework for the field of psychological science. In contrast to that article demonstrating my academic bent, the present chapter employs my related scientist-practitioner leanings, using psychobiography to reconstruct the underpinnings of Langer's worldview that shaped the problems, theory, and methods that have led her to become one of the most influential psychologists of all time.

The data for the present chapter come from a variety of sources. Ellen and I have had a professional friendship for over 30 years. It began in 1985, when I first served as a Lecturer in Psychology at Harvard and has continued, regardless of my subsequent academic affiliations, through the present. During my initial 5-year Harvard appointment, I had the pleasure of teaching many of her students, friends, and even her niece, which I believe solidified in us a mutual respect for one another. However, our relationship was overdetermined insofar as I had initially learned of Ellen's groundbreaking research several years earlier from one my former fellow graduate students and now wife of 35 years, Joan Kellerman, a clinical psychologist with ongoing research interests in social psychology.

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The previous data have been supplemented by: Ellen's and my similar backgrounds including simultaneous independent transactions in some of the same cultural and academic environments; more recent informal observations of her behavior in her weekly laboratory meetings, which I have attended for the last 5 years; and published interviews with her over the years. However, prior to combining these data into an account that helps to explain the underlying worldview shaping her career, several words concerning the theoretical framework surrounding this analysis are in order.

Framework for the Present Analysis

To date, there has been no consensus in the literature as to whether *psychohistory* and *psychobiography* represent synonyms and/or, either collectively or individually, a viable field of study, a theory, or a method (cf. Robins et al. 2009). Thus, stated most simply, the present analysis is grounded in the following assumptions.

First, while both terms explicitly use the concepts, principles, and theories of psychology to enhance our understanding of particular phenomena in the past, psychobiography is considered a subset of psychohistory with the former focusing on understanding the lives of historically significant people and the latter of historically significant events. Second, psychobiography is here considered the application of general psychological theory to biographical data. This inclusive definition avoids the common pitfall of associating psychobiography exclusively with psychoanalytic theory. This is likely related to the fact that the first psychobiography is attributed either to Freud's (1916) psychoanalysis of Leonardo da Vinci or to Erikson's (a colleague of Langer's in Harvard's Psychology Department from 1977 to 1994) analyses of Martin Luther (1958) and Mahatma Gandhi (1969). Further, subsequent psychobiographies over the years (e.g., see Hogan 1976, on Malcolm X) have drawn heavily on Erikson's general conceptualization and specific focus on identity before psychoanalytic theory fell to some degree out of favor related to the rise of such movements as humanistic psychology (e.g., Maslow 1968) and the Cognitive Revolution (Neisser 1976).

Third, although Erikson (1975) defined the larger field of psychohistory as "the study of individual and collective life with the combined methods of psychoanalysis and history," his revisionist use of psychoanalysis (e.g., including his more positive refocusing on psychosocial vs. psychosexual stages of development) set the stage for conceptualizing psychobiography as the application of psychological theory more generally to biographical data. Specifically, he examined how the ego strength of the historical figures he studied allowed them to transform typical conflicts so that they became leaders who made significant contributions to their times.

For example, in his analysis of Luther, a leader of the Protestant Reformation, Erikson highlighted Luther's documented seizure in the choir of his monastery as the turning point in Luther's struggle for identity: Luther's exclamation of "It isn't me" was seen as an expression of his need to repudiate certain roles to break

through to what he intended to be. Similarly, Gandhi's decision to fast during a local labor dispute was viewed as the crisis that allowed him to transform a negative identity into a positive, active, political one. Thus, Erikson did not focus on the pathological features of his subjects' behavior but rather on the ways in which they were able to overcome their limitations. This strategy is what distinguishes a typical biography (often documenting all important events in a person's lifetime) from a psychobiography (focusing only on particular events to understand better why they happened). Such a strategy with its potential to provide insight into the field of psychology (e.g., Levinson's 1978, *seasons of adult life* and Gardner's 1993, and Amabile's 2000, *theories of creativity* were based on psychobiography) makes sense for the analysis of the life of Ellen Langer, one of the most influential psychologists of all time.

Fourth, psychobiography is conceptualized here as an interdisciplinary field of inquiry, a more general developmental theory, and a qualitative research method (e.g., case study). As a research method, psychobiography has often been criticized on the grounds of its inherent subjectivity whereby authors choose to conduct psychobiographical studies on individuals for whom they feel some emotion, positive or negative. While I acknowledge my positive feelings for Langer, this criticism appears to reveal a basic misunderstanding of qualitative research in which investigators and participants are typically seen as co-collaborators (Demick in press). Similarly, the criticism stands in contrast to my recommendation that psychological science may be advanced only through the complementarity of explication (description) and causal explanation (conditions under which cause-effect relations occur) rather than being restricted to one or the other (cf. Maslow's 1946, early discussion of the need for scientists to be problem- rather than means-oriented).

The theoretical approach chosen to guide the present analysis is McAdam's (2015) comprehensive theory of personality development. Trained as a graduate student also in Harvard's Psychology Department, he has integrated state-of-the-art research from the subfields of personality and developmental psychology (an endeavor to which I am extremely sympathetic as a developmental psychologist, a clinical psychologist, and a proponent of holism) into the following theory. Related to evolutionary demands, all individuals begin life as social actors and maintain this role, although with different foci and desired endpoints, across the life span. As a result, personality in its full form is conceptualized as a developing configuration of psychological individuality that expresses a person's recognizable uniqueness in which life stories are layered over salient goals and values, which in turn are layered over dispositional traits.

Specifically, McAdams has proposed that the first level of personality development, which spans infancy through early childhood, is defined by temperamental qualities apparent at birth, which gradually develop into personality traits (cf. McCrae and Costa 1987). At this level, the infant/toddler/preschooler is seen predominantly as a *social actor* who performs emotion and behavior. His or her focus is solely on the present and designed to answer such questions as "How do I act?" and "What do I feel?"

According to McAdams' theory, the second level of personality development emerges in middle childhood following the 5–7 year shift (a term coined by another

of Langer's former colleagues, Sheldon White 1965, to denote the host of cognitive and social changes that develop between these approximate ages, resulting in a newfound sense of maturity and rationality). Based on personal goals, projects, plans, and values, the child expands his or her focus to include not only the present but also the future to begin to answer such questions as "What do I want?" and "What do I value?" Here the personality thickens to accommodate features of the child as a *motivated agent*, integrating such constructs as autonomy, achievement, affiliation, and morality.

Finally, McAdams' third level of personality is considered to begin in emerging adulthood, a recently proposed stage of development whose age estimates range from 18–25 years (Arnett 2000) to 18–33 years (e.g., Wapner and Demick 2003). At this level, the individual as an *autobiographical author* expands his or her focus even further to include the past, present, and future to begin to construct a narrative identity or life story with motivational functions, addressing such questions as "Who am I," "Who have I been," "Who am I becoming," and "What does my life mean?" In this last stage, McAdams has integrated his earlier (e.g., 1993) work on characteristic themes in life stories, which include the themes of agency, communion, power, intimacy, redemption, and generativity. Finally, all three levels and their accompanying roles (the individual as social actor, motivated agent, and autobiographical author, respectively) continue to develop across the life span as human beings continue to change and adapt to their changing environments (with personality traits developing in the first level considered the most stable of all personality aspects).

Against the backdrops of the previous discussions of the nature of psychobiography (detailing only selected and not all events), Erikson's specific psychobiographies (focusing on individuals' strengths, allowing them to overcome their limitations), psychobiography as a method (qualitative with its inherent subjectivity seen as a complement to objective quantitative research), and McAdam's stages of personality development (the individual as a social actor, motivated agent, and autobiographical author) as an organizational framework, we now turn to the life of Ellen Langer. The goal of this analysis is to demonstrate the ways in which her evolving worldview related to a sampling of events within her lifetime has shaped the problems, theory, and methods that have led her and will continue to lead her to define the field of psychology for some time to come.

The Life and Times of Ellen J. Langer

Langer as Social Actor

According to McAdams, the first and most basic layer of personality is the person as a social actor with infants functioning in this role at birth (although unaware of this role until 3 or 4 years of age when they achieve collective self-awareness and

consolidation of self as a continuous social actor extended across time and successive social scenes). He proposes that, as a function of evolution, infants perform emotion and behavior for groups in much the same way that actors perform on stage because parents (analogous to more formal audiences of plays and movies) watch babies' (actors') every movement, eager to decode their emotions. Further, infants' portrayals of their emotion and behavior are assumed determined, in large part, by their temperament, constitutionally based individual differences in emotion, motor reactivity, and self-regulation, demonstrating consistency across situations and over time so that they are often considered behavioral styles and precursors to later personality. Although temperament is biologically based (e.g., through neuroanatomy, neurochemistry, and/or genetics), it is assumed modulated to some extent by environmental factors (e.g., parental response).

The earliest work on temperament has been attributed to Thomas and Chess (1977). On the basis of nine temperamental dimensions, these researchers introduced a typology of three infant temperaments generally described as follows: *easy babies* (infants who adjust easily to new situations, quickly establish routines, and are generally cheerful and calm); *difficult babies* (infants who are slow to adjust to new experiences, likely to react negatively and intensely to stimuli and events); and *slow-to-warm-up babies* (infants who, difficult at first, become easier over time).

Since subsequent factor analytic studies have uncovered overlap among Thomas and Chess' nine dimensions, more recent researchers have identified and currently employ six basic temperament components (cf. Zentner and Bates 2008) with inclusion criteria consisting of biological foundations, presence in primates and social mammals, temporal stability/predictiveness, and appearance in the earliest stages of life. These six components consist of *behavioral inhibition/fear* (inhibition of behavior in response to unfamiliar people and places), *irritability/frustration* (irritated or aggressive behavior in response to painful or frustrating stimuli), *positive emotionality* (propensity to experience positive emotions associated with approach behaviors such as positive anticipation and eagerness), *activity level* (frequency, speed, and vigor of gross motor movement), *attention/persistence* (capacity for attentional control as a basis for voluntary behavior such as persistence), and *sensory sensitivity* (ability to react to sensory input of low stimulating value).

What are the implications of the above for understanding Langer as a social actor? As she most likely would have received high marks on positive emotionality, activity level, attention/persistence, and sensory sensitivity, she was probably considered a "good baby." These positive temperamental traits are in line with the ongoing formal and informal characterizations of her colleagues and students who consistently describe her as "personable" (e.g., with Ariely 2009, describing her as "a fantastic storyteller"), "indefatigable" (Kellerman 2016), "irrepressible" (Kagan 1989), and "an artist in sensibility" (Grierson as cited in Nolan 2014), respectively. They (e.g., attention/persistence) are also in line with her keen sensitivity to environmental context. For example, she became more convinced later in life of the pervasiveness of non-mindful behavior when she moved from New York City to Cambridge and witnessed people standing in line for one bank teller with four others available.

Second, there is no reason to believe that Langer ever experienced behavioral inhibition/fear and no data suggesting irritability/frustration as temperamental characteristics. However, in light of the notion that environmental factors have the ability to modulate children's temperament, one wonders whether she, as a social actor keen on observing those around her, may have transformed any negative tendencies into more positive, adaptive ones. For example, one such modulating variable may have been birth order. Although the evidence for relations between birth order and child development has been debated for decades (cf. Harris 2006), relatively newer studies (e.g., Hartshorne 2010) have more definitively established relations between birth order and personality and, thus, may be applied to Langer's development in several ways. First, as the younger of two sisters, she perhaps distinguished herself in terms of birth order effects as playful, cooperative, and especially rebellious, and in adulthood as a scientist attracted to unconventional ideas and to scientific radicalism (e.g., Paulhus et al. 1998; Sulloway 1996). This would place her in the same category as Darwin and Freud; in fact, her first book entitled *Mindfulness* (1989) has been compared on numerous occasions to Freud's (1904) *The Psychopathology of Everyday Life* (e.g., Bruner 1989).

Further, Langer often acknowledges that, while some may see her as impulsive, she prefers to see herself as "spontaneous." Consistent with temperament theory, impulsivity has been suggested to be the result of high levels of positive emotionality not contained by adequate levels of attentional or inhibitory control. This leads one to wonder whether her familial birth order coupled with data that, for a variety of reasons, parents are stricter with older children (e.g., Hao et al. 2008) may have also led her parents to view potential impulsivity in more positive terms. That this may be the case gains support from a glimpse into her early family dynamics: in a recent radio interview (Tippett 2015), Langer described herself as coming from a loving, middle-class family with "wonderfully supportive" parents, noting that "my mother was so supportive, she would have had me laminated if she could have… always bragging about me."

Third, and perhaps unbeknownst to Langer herself, aspects of temperament theory have direct bearing on her own theory of mindfulness. For example, theorists have related *novelty seeking* (one of the four main aspects of mindfulness also assessed by the Langer Mindfulness Scale with the other three being *novelty producing, engagement*, and *cognitive flexibility*) to the temperament dimensions of both positive emotionality and attention/persistence. Further, playfulness has been identified as a related dimension to positive emotionality. The construct of playfulness has figured prominently in mindfulness theory in several regards. In much the same way that she prefers to think of herself as spontaneous rather than impulsive, an important aspect of her theory has suggested that new language has the potential to promote new, more positive mindsets (cf. Crum and Langer 2007, who found that, after 4 weeks, hotel housekeepers encouraged to view their "work" as "exercise" lost more weight and lowered their blood pressure to a greater extent than a control group of hotel housekeepers given no comparable encouragement, all while reporting no changes in eating habits or level of work and less physical activity during their free time). As applied to the workplace, Langer has more recently

advocated for the use of the more mindful phrase *work/life integration* rather than work/life balance to connote that work and life should not be compartmentalized as opposite activities but rather construed as interdependent spheres of existence in which we are one and the same person with the same basic needs in both.

Prior to turning to the second level of personality development, a word is in order about the ways in which temperament dimensions evolved into Langer's later personality. Surely no one will doubt that, using McCrae and Costa's Big Five personality traits, Ellen is high on: *openness to experience* (described by both self and others as especially original, imaginative, creative, complex, analytic, artistic, nontraditional, liberal, and possessing broad interests, which has been connected to general intelligence and sensitivity to internal and external sensory stimulation, the latter of which may be construed as high mindfulness), *conscientiousness* (e.g., one of the most consistent findings in psychological science is that those scoring high on conscientiousness are among the most successful in their fields), *agreeableness* (associated with the cognitive capacity to imagine or understand the world from another's point of view, one of the foundations of mindfulness theory), and *extraversion* (whose correlates include broader and more fulfilling friendships, more optimism and resilience in the face of challenges, and higher levels of happiness, psychological wellbeing, and societal engagement with engagement constituting another pillar of mindfulness theory).

Evidence that Langer is low in *neuroticism* comes from my own personal experience of interacting with her for over 30 years. She is consistently similar, that is, emotionally stable and relaxed, in every interaction, never leading me to worry about her reception of me or her mood from one occasion to the next; in fact, we were both recently hard pressed to identify times when one of us had angered the other (although we each were ultimately able to identify one minor instance). At least part of her consistency appears related to the fact that she is very aware that, if she preaches the advantages of living mindfully, she herself must lead a mindful life. Further, she is adamant that mindfulness leads only to positive, and never to negative, consequences. She has even convinced the clinician in me that being overly mindful is not related to the presence of obsessive tendencies. In fact, in a recent conversation perhaps reflecting the notion of serendipity in science, she confessed that, at one point in the past, she changed her initial focus from studying mindless behavior to studying mindful behavior lest people associate her personally with the former rather than with the latter.

Finally, who can deny the stability of the individual as social actor as reflected in temperamental and personality traits given Langer's propensity for being one of the most commandeering lecturers around regardless of whether she is talking to an auditorium of undergraduates, graduate students, medical school faculty members, businessmen and women, or international audiences both here and abroad? This is most likely because she is a master of performance designed to foster *engagement* (curiosity) and discomfort (*novelty producing* content), leaving her audiences to want to learn more (*novelty seeking*) about her unique perspective (*cognitive flexibility*), all signposts of mindfulness theory (cf. Whitehead 1922, on the rhythm of education).

Langer as Motivated Agent

McAdams has asserted that, during the 5–7 year shift (White 1965), children experience a host of cognitive and psychosocial changes that ultimately result in a newfound sense of maturity and rationality that signifies a major transformation in psychological functioning (often referred to as the *age of reason and responsibility*). For example, following this shift, children show cognitive gains (e.g., not only in the emergence of new cognitive skills such as categorical knowledge but also in the ability to reason logically albeit concretely), emotional gains (e.g., more complex self-concept and -esteem), and social gains (e.g., concern for others often rewarded with added interpersonal responsibilities). Most relevant here, however, is that by the end of the 5–7 shift children become motivated agents in the fullest sense, that is, taking ownership of their personal experience and organizing their future behavior for the attainment of valued goals.

McAdams traces the beginnings of the second layer of personality development to the point in time at which children become motivated agents. Relevant also to this construct is the development of such related motivational dimensions as affiliation, achievement, autonomy, play, succorance, self-determination, and the like. Here, we will focus primarily on the roles of affiliation and achievement in Langer's life.

Based on Langer's current affiliative style, there is reason to believe that she may have been person-oriented from the relative onset. For example, the temperamental dimensions of positive emotionality, activity level (energy), and attention/persistence (novelty seeking) most likely morphed relatively early on into the dispositional trait of extraversion.

In addition, other factors may have contributed to Langer being a popular youngster. For example, considerable research (cf. Goudreau 2015) has suggested that names can contribute both to one's self-perception and to others' perception of self with ongoing implications from childhood (e.g., children with more common names are more popular than those with unique and/or unfamiliar names) through adulthood (e.g., impacting college admission, hirability, and even spending habits). Further, Mehrabian (2001) has demonstrated that female first names connote more feminine characteristics and more ethical caring but less successful characteristics than male first names and that more common names suggest less anxiety and more exuberance than less common ones. In Langer's case, research revealed that, at the time of her birth, *Ellen* was the 66th most common female first name, which was at an all time high decreasing steadily thereafter through the present (cf. Twenge et al. 2010). In line with this, Lipsitt (as cited in Flora 2004), one of my collaborators and former colleagues at Brown University, has speculated that, if parents give a child a less common offbeat name, "they are probably outliers willing to buck convention, and that [parental trait] will have a greater effect on their child than does the name." However, if Langer's parents were conventional (particularly in light of the trend for American parents to have given their children less common names during the years surrounding her birth, related to a rise in patriotic individualism following

World War II), this may help explain why her parents were so enthusiastic about her abilities and accomplishments.

A word is also in order concerning her last name. Langer is a Jewish (Ashkenazic) family name whose origins come from a descriptive nickname for a tall person. Contrary to this, I was recently surprised to see her described as a "petite" woman (Ruark 2010), a conceptualization of her that had never previously crossed my mind. In keeping with her surname, perhaps she compensated for her physical stature with psychological stature (e.g., keen intellect, dynamic personality) instead.

Given her keen attention to and engagement with the environment, another variable affecting Langer and her subsequent work may be the environmental contexts in which she grew up. Initially living in a small apartment in which she shared a room with her sister in the Bronx, her family subsequently moved to a small garden apartment in which she continued to share a room with her sister in Yonkers, an inner suburb of New York City directly bordering the Bronx two miles north of Manhattan. In some ways, similar to my own hometown of Waterbury, Connecticut, Yonkers' first 200 years as a small farming town with an active industrial waterfront was ultimately transformed into a major industrial area (e.g., boasting being the home of the Otis Elevator Company, the Alexander Smith and Sons Carpet Company, the Waring Hat Company, the Colt Runabout Company, and the company that produced bakelite, the first completely synthetic plastic).

However, following World War II and during the initial years when the Langer family moved there, Yonkers lost much, if not most, of its manufacturing activity due to increased competition from much less expensive imports. With the loss of jobs in the city itself, Yonkers then became primarily a residential city with a variety of ethnic communities springing up in its four distinct quarters (separated by the Saw Mill River), each with a mix of building styles ranging from dense clusters of apartment buildings, blocks of retail with apartments above, multifamily row houses, and detached single-family homes. This may at least partly explain why, as an adult, Ellen has several lovely homes spanning from Cambridge, Massachusetts to Puerto Vallarta, Mexico.

There is no doubt that Langer, well tuned into the subtle nuances of environmental contexts from an early age, was a keen observer of the deindustrialization of Yonkers and the subsequent increased development of its ethic communities. Coupled with the city's close proximity to New York City itself, she must have become sensitive to issues of diversity fairly young in life, which may help to explain why much of her work, particularly her early studies, dealt with the problems of stigma, prejudice, and discrimination (e.g., Langer et al. 1976; Taylor and Langer 1977). Although many of her publications have become classics in the field, a subsequent early study deserves special mention for its ingenious demonstration of and suggestion for decreasing prejudice by increasing discrimination.

This study (Langer et al. 1985) assessed the effects of mindfulness training (active distinction making) on sixth graders' perception of handicapped children. Subjects received either a high- or low-mindfulness treatment or viewed slides of non-handicapped people or primarily of handicapped individuals. Mindfulness was

manipulated by asking them questions concerning a handicapped or non-handicapped target person and the target person's professional skills, situational skills, causation of events, and role of flexibility. The high-mindfulness treatment, especially when bolstered by explicit reference to the handicapped, uncovered that teaching children to be more differentiated, that is, more mindful, resulted in the view that handicaps are function-specific and not people-specific.

Returning to Langer's affiliative tendencies during the second level of personality development, several of her recent spontaneous comments have bearing on the issue. First, she has acknowledged that particularly during the elementary school years she was friendlier with her male peers than with her female peers. This was reminiscent of a situation that my wife and I encountered when my daughter, currently a professional dancer in Los Angeles, was in fourth grade some 20 years ago. We were called into school one morning only to find that my daughter's teacher was concerned that she did not act similarly to all the other girls. When questioned, the teacher informed us that our daughter was not shy and demure nor did she typically wear pretty pink dresses and black patent leather shoes as most of the other girls in the class; rather, she preferred to dress in her own style (e.g., often wearing a Red Sox jacket that she particularly liked), to sit in the front of the class, to wave her arm vigorously if she desired to answer a question, and to interact with her male as well as female peers. If this is how educators construed sex role stereotypes only a short time ago (i.e., after the women's movement of the 1960s–1970s and its subsequent waves), it is not at all surprising that Langer, in light of her temperament and personality, would have preferred a more active (vs. passive) stance toward the world, which may have been construed by others as atypical. Ellen, however, remembers her elementary school years as ones during which she dressed reasonably conservatively and always, similar to most other children her age, wanted to fit in. While this may have been true of her attire, it is difficult to think that she was completely able to transform her native active tendencies into more traditional sex-typed ones.

There are several final points to make in considering Langer's sense of affiliation. In discussing her high school years in particular, she typically mentions that she was one of those rare individuals who fit in with all groups of her peers (e.g., the studious as well as the more socially oriented), who regardless of their group membership came to her with their problems. She saw this as demonstrating to her at an early age that evaluation is context dependent and requires cognitive flexibility, additional germinal notions in her subsequent theory of mindfulness. Finally, Langer is not one of those individuals who insist that she is always right. She has the capacity to apologize to others, including critics of her work (cf. Ruark 2010) as well as students and colleagues in her everyday life.

In fact, over the course of our relationship, I have seen Ellen become a much more sensitive individual who cherishes and savors her relationships even more so now than previously. While it was clear to me that, above all else, she has always valued the totality of her relationships (e.g., family members, friends, colleagues, staff members, undergraduates, graduate students), she has also developed over time heightened senses of altruism and of relationship reciprocity. These

developments are evident in others' ongoing testimonies that she is extremely generous in a number of regards. For example, her students at all levels consistently laud her not only for openly sharing her research ideas, but also for giving them as much time as necessary to help them understand and/or operationalize these ideas into meaningful studies, which they might employ as theses and/or additional papers to bolster their careers. Further, at the end of every semester, she throws an elaborate party for her current and previous lab members, which are most notable in that she refuses to allow her guests to contribute anything, instead preparing an extensive gourmet spread of her own making rather than relying on traditional catering. As if I were not impressed with this alone, I characteristically marvel at the poise and ease of both her preparation and presentation, reinforcing my view that her mindful lifestyle leads her not to experience the typical anxiety that most of us feel when hosting a large party or event.

Turning now to Langer's achievement motivation, one has only to spend a brief time speaking to her to know that she is one of the brightest individuals around. Part of my attraction to working with her is the fact that we share a similar conceptual tempo characterized by consistently spontaneous and error-free deliberation. My long-term collaborator, Seymour Wapner of Clark University, and I also shared this same tempo and wondered why earlier theories of cognitive style (e.g., Kagan 1965) suggested only two styles, in this case, those who were reflective (deliberating over alternative solutions to problems, leading to longer response times and fewer errors) and those who were impulsive (responding spontaneously without deliberation, leading to shorter response times but more errors).

Given her temperament, personality, past accomplishments, and current behavior and achievements, one might likely suspect that Langer was always an extremely bright individual, among the brightest of her peers. She recently mentioned that, during her elementary school years, one of her teachers desired to show that she could take the smartest children in the school and turn them into an award-winning chorus. Of course, Langer was chosen for this special group but noted that, since singing was not among her natural abilities, the teacher suggested that perhaps she sing softly and/or even lip sync the words. Not one to buckle in light of negative feedback, she deduced that she could be a viable member of the chorus by emphasizing certain words or refrains rather than by making herself a non-singer in the group. In essence, the teacher's initial selection of her for inclusion in the chorus coupled with her own native intelligence that she could modify the classical definition of singing to be a vibrant, participating member of the group most likely solidified in her the notion that she could do anything to which put her mind.

For me, Langer's early experiences in her elementary school chorus was reminiscent of my paternal grandmother who periodically sat down with my cousin and me (the two of her four grandchildren in whom she perceived the most potential) to lecture us on how we had the capacity to become whatever we wanted and to be successes in life. Similarly in Langer, this and other such experiences may have functioned similarly and led her ultimately to consider her brand of psychology as the *psychology of possibility* (Feinberg 2010). As evidence, she in her 50s decided to take up painting and became relatively successful at it (e.g., holding gallery

shows and commanding high prices for her artwork), which ultimately resulted in another book (Langer 2006). By using her own journey to becoming an artist, the volume examined the obstacles that we all put in the way of our own creative expression (e.g., fear of comparison, judgment, and what constitutes talent) and broke down what holds some individuals back from living more mindful lives. Further, viewing art as a process rather than as a product (cf. the process-achievement distinction in my own work), she identified the processes (e.g., working in the moment, freeing oneself from judgment) that make not only for better art but, more importantly, for a better life. The theme of process versus achievement is a recurrent one that permeates her work (see below).

Langer attended New York University for college and distinguished herself as an outstanding student, one whom her well-known psychology professor, Philip Zimbardo, publically described as head and shoulders above her peers (e.g., Feinberg 2010). Although her choice for attending NYU (over other institutions to which she surely would have been admitted) was most likely related to the fact that she married at a young age and remained in New York to be with her young husband, this decision might also have been reinforced by her clear identification, at times even today, as a New Yorker (cf. Ruark 2010) with an accompanying positive "New Yorker's view of the world" embedded in the collective unconscious of most if not all New Yorkers (e.g., my wife, Joan Kellerman, who never lived outside of New York City until she attended graduate school at Clark University in Worcester, Massachusetts, was ambivalent about leaving the city to move to what she assumed was the country). Further, New York University, located in the heart of Greenwich Village, must have been an extremely exciting place to be—intellectually, politically, culturally, and personally—at the height of the Vietnam War and the counterculture of The 1960s.

Following graduation from New York University, Langer headed north (an 82-mile driving distance) to earn a Ph.D. in Psychology from Yale University between 1970 and 1974. These are the very years when I attended Yale as an undergraduate psychology major. Yale at this time was an extremely interesting place. Most notably, one year before Langer and I enrolled in our respective programs, Yale introduced undergraduate coeducation (with 230 women entering and contributing to 12 % of the freshman class and 358 women registering as transfer students). Further, although women were first admitted into Yale's graduate programs in the Graduate School of Arts and Sciences in 1892, the combined percentage of women in all social science doctoral programs in 1970 was only slightly higher at 18 %.

My own impression of Yale in 1970–1974 might be described as unnatural and schizophrenogenic. On the one hand, it appeared for the most part to maintain its white male Protestant orientation as evidenced by, for example, its extremely formal architecture (often described as "an outdoor museum of the history of architecture"), its weekly formal dinners housed in residential colleges in which students were literally served steak and lobster by wait staff, and a lack of female presence (e.g., the female undergraduates were collectively housed in Vanderbilt Hall, the

only dormitory with an around-the-clock security desk, at the far end of the Old Campus, the principal residential space of Yale College freshmen; every Saturday evening after dinner, busloads of women from as far away as New York and Massachusetts arrived for the weekly mixer).

On the other hand, the daily academic and social atmospheres were very different in an emphatically liberal manner. For my first weekend on campus, the popular band Little Feat performed on the Old Campus amidst inflatable moonwalks and clouds of marijuana. In October, hundreds of upperclassmen streaked across the Old Campus at 10 o'clock one night with the majority of freshmen watching in amazement. My grade in *Introductory Psychology* was based on using the vocabulary words at the end of each chapter in "funny" stories that would "amuse" the instructor. Much of my freshman year consisted of lively debates concerning the potential boycotting of classes related to the New Haven Black Panthers trials, which resulted in two bombs exploding in Ingall's Rink during a concert and protest on May 1 (although the rink was damaged, no one was hurt and no culprit was identified). For the first several years, the grading system for courses consisted of "high pass," "pass," and "fail."

Many escaped the campus unrest by spending time in relatively nearby New York City and Langer and I were probably no exception particularly since she had grown up there. However, it must be noted how the Yale years impacted us as well as scores of other students. I am not surprised to hear or read about Langer's work as "unorthodox," "outrageous," "flouting convention," and "challenging conventional wisdom." This is because of both the nature of the Zeitgeist and the tenor of the university in which students were rewarded for being all of the above. In fact, I found myself having to monitor both my comments and behavior in the more conservative 1980s and 1990s, reminding myself that The 1960s were long gone. Thus, Langer—an extraordinary and unique individual unto herself—was also a product of her times.

While Langer and I did not know each other personally during our time at Yale, we were intricately involved with some of the same faculty members in the Department of Psychology with the most notable being Robert Abelson. Abelson typically taught the dreaded undergraduate statistics course required of majors. His course, however, was anything but dreaded for I remember him as intellectually rigorous, a clear and entertaining lecturer, and extremely generous of his time and of himself. He taught an extremely sophisticated course: in addition to the standard required text, two required supplemental texts were early versions of Huff's (1993) classic *How to Lie With Statistics* and Peck et al.'s (2005) *Statistics: A Guide to the Unknown*. In essence, he taught statistics from the point of view of the philosophy of science, which most likely served as the background for his (Abelson 1995) widely used *Statistics as Principled Argument,* a compendium of practical wisdom on using statistics to make empirically based arguments.

I can easily understand why Langer picked Abelson as her advisor for they both shared an extremely keen intellect, open-mindedness, creativity, playfulness, and generosity. In fact, Langer's views on mindlessness may have initially been generated as a reaction against his (Abelson and Shank 1977) book, *Scripts, Plans,*

Goals, and Understanding, in which he argued convincingly that thought was embedded in a web of specific organized knowledge about the world. I can only imagine the fascinating discussions between the two concerning the logical versus more mindless nature of human cognition. In fact, as the story goes, the idea for her dissertation came from an impromptu poker game with fellow graduate students (e.g., Dweck, Hattie) in which she misdealt a hand (e.g., inadvertently skipping a person and giving his or her card to the next), causing the participants to object in an uproar. This subsequently led her into the laboratory to conduct a now well-known study on perceived control, which examined factors leading people to believe that they will prevail in games of chance (Langer 1975). She constructed a lottery and found that subjects who chose their own numbers considered them more valuable than randomly generated numbers, often trying to buy "their" numbers back if someone else took them. This study was important for several reasons: not only did it establish the "illusion of control" in decision making (vs. the then widely accepted notion of behavior as a function of rational, calculated thought), it led her to numerous other groundbreaking studies that served as the basis of mindfulness theory but it also portended future developments (or redevelopments) in the field of psychology (e.g., unconscious cognition) and allied disciplines (e.g., the endowment effect in behavioral economics), the latter of which is a trend in her work (see below).

In other regards, Abelson and Langer were not so far apart. His (e.g., Abelson and Carroll 1965) computer modeling of "hot cognition" and his subsequent creation of a computer program modeling political ideology ("the Goldwater machine") most likely impressed her first with the need to integrate cognition and affect and second with the need to study psychology in ecologically valid contexts, both notions that figure prominently within her contemporary mindfulness theory. Further, his (Abelson et al. 2003) last book published several years prior to his death, *Experiments with People: Revelations from Social Psychology,* perhaps even unbeknownst to him, likely owes Langer a debt of gratitude. In it, he acknowledged "people's unawareness of why they do what they do, the tenacity with which they maintain beliefs despite contrary evidence, and the surprising extent to which they are influenced by the social groups to which they belong" (p. xi), issues that appear at the very core of mindfulness theory.

Abelson's influence on Langer is still apparent even today. Often times in laboratory meetings when graduate students ask statistical questions implying that statistics may only be seen in right-or-wrong terms as if handed down in a rulebook from God, Ellen and I glance over at each other and smile. For me, the smile acknowledges our mutual recollection of and respect for Abelson and his flexible, pragmatic view of statistics as principled argument not primarily to discover truth but rather to resolve disagreements between people (cf. McBurney 2002). In fact, after an interesting lab meeting with discussion of statistics as a principle focus, Ellen asked me whether, by today's standards, I thought her well-known study and companion piece with Rodin (Langer and Rodin 1976; Rodin and Langer 1977) would be publishable today. In an effort to appease both our curiosity, I went back and read this research only to find no fault with their use of statistics: appropriate parametric statistics had been employed whenever possible and nonparametric

statistics whenever the numbers in the comparison groups became small. In fact, it appeared as if any controversy over this work had been caused by its oversimplification in the media and undergraduate psychology texts: most sources report the study as simply revealing that nursing home residents provided with a plant to take care of live longer than if they had a plant tended for by the staff without reference to the additional independent variables of choice and enhanced personal responsibility that were also provided the residents and subsequent dependent measures. Based on his well-known criteria, Abelson would be proud of Langer and Rodin's principled argument underlying their choice of statistics.

Langer graduated with a Ph.D. in Social and Clinical Psychology from Yale in 1974. Although she completed a clinical internship, she ultimately decided on a career in social psychology research rather than in a scientist-practitioner career in clinical psychology. Although she often jokes that she was not good at clinical work because she could not stop talking, it is clear that the reasons go much deeper. For example, she noted that, in the therapy context, she could often see that the patient could do what needed to be done and was tempted to tell him or her to "just do it," which was not in line with the typical orthodoxy of the prevailing paradigm of psychotherapy of the time, namely, psychoanalytic psychotherapy. Little did she know that, once again, her intuition about how people change was far ahead of her time and presaged the more recent replacement of psychoanalytic psychotherapy (incorrect in its assumption that nondirective insight leads to behavior change) with cognitive-behavioral therapy (that, in part, encourages patients to go out in the world and act differently).

After obtaining her Ph.D., Langer returned to New York City to teach at The Graduate Center of the City University of New York (CUNY) for the next 4 years. There, she collaborated with another new Ph.D., Susan Saegert, on a study involving crowding and cognitive control (in which they found that: crowding interferes with cognitive efficiency and with comfort and ease of behavior; and information about one's possible reactions to a situation works to the person's benefit in the situation). Although Langer continued to publish with colleagues from Yale during this period (e.g., Ellsworth and Langer 1976; Langer and Abelson 1974; Langer et al. 1975), the Langer and Saegert (1977) study once again portended the formalization of the new subfield of environmental psychology shortly thereafter (cf. Wapner and Demick 2002).

After 4 years at CUNY, Langer moved to Harvard's Department of Psychology and ultimately became the department's first female tenured faculty member in 1981. In a recent lab meeting discussing a problem relevant to the psychology of aging, namely, the effects of appearance on self- and other- perception (cf. Kellerman and Laird 1982), Ellen revealed that, around the time of her tenure decision, she had entertained the thought of wearing glasses to convey more intelligence. As it turned out, such an intervention was clearly unnecessary. She then spent the beginning of her career demonstrating that, in contrast to the prevailing view that people act rationally on the basis of their thinking, thinking (or the lack thereof that she termed "mindlessness") are many, if not most times, based on individuals' behavior. Her initial interest in mindlessness subsequently led her to

focus on studying what its opposite, mindfulness, might look like and ways to increase mindfulness to reach and/or exceed currently accepted limits and to promote subjective wellbeing, portending the arrival of positive psychology some 20 years later.

Langer's groundbreaking findings on both mindlessness and mindfulness to a great degree acquired the status of household words within both our culture and countries around the world. For example, although most individuals may not recognize her name per se, they have heard (or will hear) of her findings, stated in their simplest terms, that: people believe that lottery tickets whose numbers are based on personal associations have better odds than those based on randomly chosen numbers (Langer 1975); and framing a silly request in a familiar way (e.g., whether to cut in on a line of others waiting to use a copy machine or acknowledging an interdepartmental memo void of content) leads to compliance with the request (Langer et al. 1978). Who also has not heard of her findings on mindfulness, showing that (relative to control groups): people for whom work is relabeled as exercise lose weight (Crum and Langer 2007); individuals who enact being airline pilots primed with the mindset that pilots have excellent vision improve their eyesight (Langer et al. 2010); students prompted to question categories (e.g., familiar objects labeled in conditional rather than imperative terms such as "this could be an *x*") are more likely to solve problems in creative ways (Langer and Piper 1987); adults from Mainland China and from the American Deaf exhibit better memories than hearing Americans suggesting that cultural beliefs about aging play a role in determining cognitive performance in aging (Levy and Langer 1984); and men who live as if they were 20 years younger for 1 week show significant physical and psychosocial gains after that week (Langer 2009)? These findings and others like them are especially significant because they demonstrate that many biological and psychological endpoints previously believed to be wired into individuals' nervous systems may actually be a function of premature cognitive commitments or mindsets. In sum, Langer has come full circle toward returning to the view that mind and body are one and the same and to the notion that the illusion of control may not always be an illusion after all, thereby returning the control of our health back to ourselves since our limits appear to be of our own construction.

Since her tenure, Langer has served as the chair of the social psychology program and the director of graduate studies with additional affiliations within Harvard's Medical School, Graduate School of Business Administration, and Center for Public Leadership. Over the years, she has received numerous awards including a Guggenheim Fellowship, a Distinguished Contributions to Psychology in the Public Interest Award and a Distinguished Research Achievement Award from the American Psychological Association, a Distinguished Contributions of Basic Science to Applied Psychology Award from the American Association of Applied Psychology from the American Association of Applied and Preventative Psychology, the Arthur W. Stats Award for Unifying Psychology from the American Psychological Foundation, the James McKeen Cattell Award, the Gordon Allport Intergroup Relations Prize, the *New York Times* "Best Ideas" Award, and most recently the Liberty Science Center's Genius Award.

Prior to turning to Langer as an autobiographical author, one should not lose sight of the fact that she has experienced her share of challenges. For example, she was married and divorced before most people are married; her mother died of metastatic breast cancer at 56 when Ellen was 29 (just out of graduate school); she experienced a major fire in 1997 and lost most of what she owned; and she suffered a slip on the ice several years ago and shattered her ankle that is currently full of metal pins. Nonetheless, one gets the sense that, related to her own mindful living, she decided a long time ago that she had the power and control to do anything to which she set her mind.

One way in which Langer may have figured out how to (re)gain power in her life is to turn her own challenges into research studies under her control with potential benefit for future generations. For example, her interest in health psychology may be traceable to the mortality of her own parents. As an extension of her counter-clockwise study with older men (Langer 2009), she is currently planning a similar study on women with metastatic breast cancer, the same condition that afflicted her mother, who will be encouraged to relive a week in a year prior to the development of their cancer toward shrinking their tumors. In line with this, she often tells the story of how her hospitalized mother had to wait for an orderly to wheel her to another hospital location. When Ellen questioned this imperative and was told that she and her mother would have to be patient, she stated that this was in no way the case as she herself then wheeled her mother to the designated location. Her past (e.g., Langer et al. 1979) and future studies designed to improve memory functioning in older adults (e.g., varying environmental determinants such as degree of reciprocal self-disclosure with the experimenter) may be related to her constant observation that some individuals in end-of-life settings maintain excellent memory for certain personally relevant social activities such as Bridge.

Finally, when asked whether a lack of findings in her upcoming cancer study might negatively impact her academic credibility, Langer has been clear that her motivation in this and related work is not primarily about herself. For example, even if the study does not bring about complete remission or cure for her participants, she takes comfort in knowing that any improvement, or simply the experience of a more positive week than those to which they have become accustomed, could serve as a small benefit for or gift to them. This sentiment reechoes Langer's earlier humanitarian pronouncement that, despite the host of accomplishments for which she has become well known, she has placed relationships at the summit of her personality, a trait that was solidified and validated many times over in her ongoing quest as a motivated agent.

Langer as Autobiographical Author

If Langer were asked to recount her life story, she might claim—in keeping with the tenets of mindfulness theory and the psychology of possibility—that this is an impossible task because, as her life and work are far from over, every moment if

lived mindfully determines the moment after. Nonetheless, although such an extraordinary individual defies categorization, her life story from my perspective appears to share some commonalities with those of other highly generative adults, albeit with at least one major twist. According to McAdams (2006), five themes characterize the life stories of highly generative American adults, including the themes of early advantage, suffering of others, moral steadfastness, redemption sequences, and prosocial future. Because the central idea in these stories consists of a redemptive move from suffering to enhancement, he has named this prototype "the story of the redemptive self."

Such a story may to some degree be applied to Langer's life. However, it must be noted that this is my interpretation based on the data presented above, only some of which is firsthand. In this story, the protagonist typically comes to believe early on that he or she has a special advantage or blessing that contrasts markedly to the pain and misfortune suffered by others so that he or she feels special in a positive way. This is highly reminiscent of Ellen's comments that she had a wonderfully supportive family who provided her the strength and courage to be out in the world asking questions. Highly generative adults acknowledge that, while they are fortunate, others suffer; they typically recall early experiences in which they witnessed others suffering, which led them to feel empathy. Surely Ellen, well tuned into her environmental contexts from an early age, must have experienced the suffering of others in her daily transactions in New York City and its surrounds. Experiencing the world as a place where people need to care for others because some are blessed and others suffer, the protagonist commits the self, typically in adolescence or even earlier, to living in line with clear enduring sets of beliefs and values that guide his or her behavior across the course of the story. While McAdams has termed this commitment moral steadfastness, I would in Langer's case perhaps call this the origins of her own state of mindfulness.

Moving forward with the confidence of early blessing and unwavering belief, the protagonist encounters his or her fair share of disappointment, misfortune, and perhaps even tragedy but these negative events become transformed or redeemed into positive outcomes, sometimes because of the protagonist's own efforts and sometimes because of external factors such as chance or luck. In Langer's case, I would venture to presume that she was able to turn bad events into good ones but, unlike McAdams' typical protagonist, this was most probably accomplished through her efforts alone. Her temperamental characteristics that ultimately became her personality traits, including her curiosity and interest in the world, her energy, her intelligence, her optimism, and her ability to see events from multiple perspectives—in essence, her mindfulness—served her well in these cases. For example, her divorce probably developed in her a deeper understanding of the nature of her relationships. Her mother's death most likely was construed as an end to her mother's suffering. Later in life, the fire in which she lost most of her personal belongings and her more recent ankle injury assuredly developed in her a sense of appreciation that she was not physically hurt or not hurt more than she was, respectively.

Looking to the future with an expanded orbit of care, the protagonist next sets goals that aim to benefit others, particularly the next generation, and to contribute to

the progressive development of society as a whole and of its more worthy institutions. In line with this, certainly no one can doubt Ellen's extreme loyalty to her students and friends and to her unwavering commitment to improving noteworthy institutions, particularly educational ones (cf. Langer 1997), which provided much to her development and to which she has already given back so much of herself. This inspiring life story may most appropriately end in Ellen's own words: "Virtually all the world's ills boil down to mindlessness. If you can understand someone else's perspective, then there's no reason to be angry at them, envy them, steal from them. Mindfulness is a tool for the masses that can prop open our minds. It's not something you have to strain to do, it's like those optical illusion brain teasers. Once you've seen there is another's perspective, you can never *not* see that there's another point of view" (Feinberg 2010, p. 71).

McAdams has also noted that individuals who have life stories in which negative events are redeemed by positive outcomes (redemptive themes) report more life satisfaction, higher levels of self-esteem, a pronounced sense of life coherence, and lower levels of depression. To explain why redemptive themes in life stories predict wellbeing, he offers two explanations: (a) happier people may be happier because many past negative events were indeed followed by positive outcomes, reflecting past objective reality; and/or (b) redemptive themes reflect implicit choices that people make in how they understand and narrate their past with choice implicated not only in the selection of which themes to narrate but also in how to narrate the scene, how to frame its antecedents and consequences (some of which the author may choose not to narrate), and what conclusions to draw from it. Given Langer's academic and personal interests in choice and control, the second interpretation is more in line with her thinking and self-presentation.

Commentary

One can see from the previous psychobiography that I like and respect Langer for we share much in terms of theoretical similarities that translate into everyday practices. Specifically, mindfulness theory and holistic/systems developmental theory with its roots in Gestalt psychology (Demick in press) both adhere to strong beliefs in grand theory, perspectivism, non-reductionism, the distinction between process and achievement, individual differences, for example, assessment of relations between levels of mindfulness and differing cognitive styles (cf. Demick 2014b), and more specifically in the reorganization rather than simply deterioration inherent in development and aging (cf. Demick 2014a, on older adults' Stroop Color-Word Test performance).

Above and beyond this, the case study is noteworthy, as I see it, for additional reasons important to understanding and/or enhancing human motivation. First, it demonstrates that our choice of study is overdetermined insofar as we gravitate toward problems of meaningful significance to ourselves. This leads to the assertion that there is no such thing as objective inquiry: inquiry and knowledge are always

biased in that problem, theory (e.g., disciplinary, theoretical, personal biases), and method in psychology and arguably in all disciplines (cf. the Heisenberg Uncertainty Principle) are interrelated (Demick in press). Second, Langer explicitly suggests that a lack of mindfulness has the potential to blind us to new options, leading to her approach as a *psychology of possibility*. As she has stated: "If whatever it is I'm excited about now doesn't happen, it doesn't matter because there's always the next possibility" (Grierson 2014). This is a message, applicable to us all, with the potential to lead to more optimistic outlooks and subsequent enhanced wellbeing.

The case study is also important for additional reasons that have bearing on the future of psychological science and its conduct. First, although Langer's harshest critics have cited some of her studies for a possible lack of rigor, her customary use of field experiments characteristic of the complexity of human functioning in the everyday life environment (likely revealing her training in clinical psychology) may be a welcome direction for psychological science. Although this method is not problem free, for example, opening up the issues of the lack of control of extraneous variables and difficulty in replication, its advantages include greater ecological validity than in laboratory experiments, less sample bias, and fewer demand characteristics. While I have consistently argued that quantitative and qualitative methods should be employed depending on the problem under scrutiny, Langer's work has also convinced me that field experiments may hold promise for maintaining, and perhaps even improving on, the best of what psychological science has to offer. Further, in light of the type of work that she is conducting, there may be reason to reconceptualize the nature of traditional statistics, which are based on arbitrary convention. As she has stated, "If I can make one monkey talk, then it can be said, 'Monkeys are capable of speech'" (Ruark 2010).

Fourth, although Langer and her collaborators have amassed a tremendous amount of data over the years, there is still room for her as well as for others to pursue additional directions and novel applications. For example, the distinction between "reliving" and "reminiscing" opens up the fascinating problem of whether reminiscence can also reverse the effects of aging and/or other conditions and whether there is a critical and/or differential amount of time required for each or both to do so. As a developmental psychologist, I would like to see ontogenetic studies in different sociocultural contexts aimed at assessing the age or stage at which mindfulness develops, factors that promote mindfulness in children and adolescents, and the developmental trajectory of mindfulness over the life span.

Research Program in Clinical Psychology

In addition to the above suggestions, the integration of Langer's mindfulness theory into mainstream clinical psychology seems a natural progression of her work and a veritable goldmine of opportunity. Stated most simply, clinical psychology deals with the assessment, treatment, and prevention of mental illness for patients and

their families. While Langer and her colleagues have made significant inroads into each of these areas, much remains to be done.

For example, with respect to *assessment*, Langer and I have been examining the interrelations between the newly developed (Demick 2014a) computerized Group Embedded Figures Test (GEFT) and the Langer Mindfulness Scale (LMS). The GEFT, the most widely employed research instrument in psychology each year, measures cognitive disembedding ability. On this task, the subject is required to locate on 18 items a simple geometric form embedded within a larger, more complex geometric form, yielding a score from 0–18. Together with the Rod-and-Frame Test (RFT) or one of its more easily administered variants (Portable Rod-and-Frame Test), the two tasks have been employed to measure the field dependence-independence cognitive style.

Based on a differentiation index from the two tasks, individuals who are predominantly influenced by field or visual cues (RFT) and who cannot easily disembed an object from its surrounding field (GEFT) are designated as field dependent (FD) and people who rely primarily on bodily cues (RFT) and who can easily differentiate objects from the field (GEFT) as field independent (FI) with most people falling between these two extremes. A third group of individuals, namely, those who can flexibly shift back and forth between FD and FI depending on the demands of the situation, has been labeled FDI-mobile. Numerous constellations of personality characteristics correlated with these perceptual styles have indicated, for example, that FI individuals typically use structured, specialized controls such as intellectualization, whereas FD individuals characteristically employ denial and repression as defenses so that both appear pathological in the extreme (e.g., lability/histrionics in FD, autistic/withdrawal tendencies in FI). Further, the GEFT alone is widely employed in neuropsychological testing to assess the efficiency of the visuospatial and executive functioning components of working memory.

The LMS is a 21-item self-report task that yields an overall measure of mindfulness (defined as a form of attention characterized by a flexible state of mind in which we are actively engaged in the present, noticing new things and sensitive to the context distinguished from mindlessness when we act according to the sense our behavior made in the past rather than the present so that we are stuck in a single rigid perspective oblivious to alternate ways of knowing). The LMS also yields four subscale scores, namely, novelty seeking, novelty producing, engagement, and cognitive flexibility.

To determine the psychometric properties of both the online GEFT and the LMS-21, we are in the process of administering a host of additional physical, cognitive, and psychosocial tasks. Preliminary analyses of a subset of data from 300 subjects have indicated that the correlation between the GEFT and the LMS overall score is 0.15, between the GEFT and the LMS novelty seeking subscale score is 0.20, and between the GEFT and the LMS engagement subscale score is 0.21. While these correlations are significant, the strength of the relationships is relatively weak and suggests that, to some extent, they measure different phenomena. More promising, however, is that the data also revealed that FD subjects and FDI subjects

high on overall mindfulness are less sexist, racist, and homophobic than FD subjects and FDI subjects low on mindfulness and FI subjects independent of mindfulness. Thus, these preliminary findings suggest that the combination of FDI and mindfulness may exhibit significantly more predictive validity when it comes to psychiatric diagnosis, particularly for those diagnoses in which previous FDI research has been equivocal.

The data also have much import for the related issue of *etiology*. For example, autism spectrum disorder (ASD) is a condition, heavily genetically loaded, beginning in early childhood characterized by persistent deficits in social communication and interaction and by restrictive, repetitive, patterns of behaviors, interests, or activities. A leading theory has suggested that ASD can be conceptualized as an impaired capacity for empathizing (people) combined with a superior ability for systematizing (objects), consistent with brain imaging studies showing, relative to normal controls, decreased activity in regions associated with understanding the minds of others and increased activation in regions related to object perception, respectively. The former finding implicates lack of mindfulness (perspective taking) and the latter, heightened field independence.

Thus, mindfulness and field dependence-independence collectively may shed light on the etiology of a variety of psychopathologies. Toward addressing this possibility with respect to the condition at hand, we are planning a study examining whether interacting with a mindful (vs. less mindful) adult and/or whether perceptual retraining ameliorate the symptomatology of children with ASD. This research has been based on a previous study (Langer et al. 2012), which demonstrated that normal children between the ages of 9 and 12 years not only preferred to interact with adults acting mindfully (vs. less mindfully) but that those interacting with adults acting less (vs. more) mindfully devalued themselves following a mindless interaction that nonetheless contained only positive content. Studies such as these open the door for future exploration into mindfulness and/or cognitive style as contributory factors to a variety of psychopathological states.

With respect to *therapy*, numerous implications are evident. First, for example, Rubinstein et al. (2016) uncovered that, subsequent to a brief intervention, those adults with chronic pain reported less pain in a mindful treatment condition (e.g., in which they were asked to relive or to reminisce about a time when they were free of pain) relative to those in a standard relaxation condition or control condition. While this study represents a single example, there is a need empirically to validate the host of mindful interventions that have been uncovered in her research. This suggestion takes on added importance when one realizes that, in comparison to mindfulness meditation (cf. Kabat-Zinn 2003) that requires a significant amount of time from one's daily activity, relatively briefer mindful interventions of the kind Langer proposes can be easily integrated into people's daily lives as routine and matter of fact.

Moreover, there is a need to assess whether mindfulness theory and the variety of interventions that have been uncovered can serve as the basis for a more general mindfulness therapy. That is, whether a combination of mindful interventions (and which ones) embedded within ongoing dialog about the interventions and other life

issues with a mindful therapist leads to reduced symptomatology and increased wellbeing (in which diagnostic groups) is worthy of further empirical inquiry. In line with this and similar to the way in which it has been demonstrated that patient-therapist dyads matched versus nonmatched with respect to FDI cognitive style exhibit quicker symptom abatement and enjoy therapy more, it remains an open empirical issue as to whether patient-therapist dyads matched with respect to high versus low mindfulness follow suit. In essence, these and related questions constitute a research sub-program within a larger research program on mindfulness and clinical psychology more generally.

Alternatively, Demick and Langer (2016) are currently conducting an investigation, examining whether mindfulness may constitute a psychotherapy outcome measure most generally and, thus, may be considered a "common process" that cuts across all types of therapy (cf. McAleavey and Castonguay 2015). Preliminary analysis of the performance of 100+ patients of varying diagnoses in cognitive-analytic psychotherapy on the Langer Mindfulness Scale has indicated that, in addition to diagnostic group differences, those in therapy for more than 6 months score as significantly more mindful than those in therapy for less than 6 months.

The possibilities appear limitless. For example, with respect to *prevention*, we do not know as of yet whether mindfulness interventions (e.g., conditional teaching, directed attention toward novelty) and/or cognitive retraining more generally have the potential to prevent subclinical populations (e.g., those who experience difficulty in reading) from developing full-blown clinical conditions (e.g., specific learning disorders with impairment in reading). With respect to *family members*, while we do know that mindfulness is positively related to the quality of life and negatively related to the level of burden experienced by caregivers (often family members) of patients with amyotrophic lateral sclerosis (ALS) for at least 4 months (Pagnini et al. 2016), we do not know whether mindfulness generalizes to, functions in the same way (e.g., as a protective factor for burnout), and lasts to what extent in caregivers for family members with other disorders. Finally, Langer's past, present, and future work particularly if complemented by additional research from this and/or other perspectives has the potential to lead to a new subfield, namely, *clinical-social psychology* that, attempted in the past (e.g., Barone et al. 1997), has not been openly embraced (although its counterpart social psychiatry is alive and thriving).

Summary

Langer's impressive body of work on mindfulness cannot be overlooked by anyone interested in human behavior. Not only is she responsible for a major paradigm shift in psychological science, but her ongoing work has also predicted major advances including the advent of new subfields of psychology (e.g., environmental psychology, positive psychology) and allied disciplines (e.g., behavioral economics) as well as more specific examination of psychological processes such as

automatic and controlled cognitive processing, unconscious cognition, and cognitive-behavioral therapy techniques. This work has at least in part been based on her own experience as a developing actor, agent, and author.

Further, Langer is the prototype of the grand theorist since her investigations penetrate every area of human psychological functioning. She is the creator of a new science, the science of mindfulness and possibility, which as a whole constitutes not only a metapsychology but also a method of inquiry and a therapeutic technique. She is interested in explaining all of human behavior, for example, its normal as well as abnormal aspects, its origins in childhood and its manifestation in adulthood, and its bizarre as well as commonplace features. Within this broad scope, her major areas of interest include: decision making, control, creativity, education, law, business, health and wellbeing, psychopathology, and aging. While I advocate that more psychologists should attempt such research programs underpinned by grand theory, how many others who have successfully done so readily come to mind? Please move over, Sigmund. You are being displaced.

References

Abelson, R. P., & Shank, R. C. (1977). *Scripts, plans, goals, and understanding*.

Abelson, R. P. (1995). *Statistics as principled argument*. New York: Psychology Press.

Abelson, R. P., & Carroll, J. D. (1965). Computer simulation of individual belief systems. *American Behavioral Scientist, VIII*(9), 24–30.

Abelson, R. P., Frey, K. P., & Gregg, A. P. (2003). *Experiments with people: Revelations from social psychology*. New York: Psychology Press.

Amabile, T. M. (2000). Beyond talent: John Irving and the passionate craft of creativity. *American Psychologist, 56*(4), 333–336.

Ariely, D. (2009). *Predictably irrational: The hidden forces that shape our decisions* (Revised ed.). New York: Harper Collins.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480.

Barone, D. F., Maddox, J. E., & Snyder, C. R. (1997). *Social cognitive psychology: History and current domains*. New York: Plenum.

Bruner, J. (1989). Back cover of E. J. Langer. *Mindfulness*. Boston: Da Capo Press.

Crum, A. J., & Langer, E. J. (2007). Mind-set matters: Exercise and the placebo effect. *Psychological Science, 18*(2), 165–171.

Demick, J. (2000). Toward a mindful psychological science: Theory and application. *Journal of Social Issues, 56*(1), 141–159.

Demick, J. (2014a). *Group Embedded Figures Test* (*GEFT*) *manual* (Rev. ed.). (Including computerized test). Menlo Park: Mind Garden.

Demick, J. (2014b). Toward a mindful-unmindful cognitive style: Lessons from the study of field dependence-independence. In A. Ie, C. T. Ngnoumen, & E. J. Langer (Eds.), *The Wiley Blackwell handbook of mindfulness. Vol. 1* (pp. 186–199). Chichester: Wiley Blackwell.

Demick, J. (in press). *Psychology as a unified science: Toward a modern comparative psychology of mental development.* New York: Springer.

Demick, J., & Langer, E. J. (2016). *Socio-cognitive mindfulness as a psychotherapy outcome measure.* Manuscript in preparation. Cambridge: Harvard University.

Ellsworth, P. C., & Langer, E. J. (1976). Staring and approach: An interpretation of the stare as a nonspecific activator. *Journal of Personality and Social Psychology, 33*(1), 117–122.

Erikson, E. (1958). *Young man Luther: A study on psychoanalysis and history*. New York: Norton.
Erikson, E. H. (1969). *Gandhi's truth: On the origins of militant nonviolence*. New York: Norton.
Erikson, E. H. (1975). *Life history and the historical moment*. New York: Norton.
Feinberg, C. (2010). The mindfulness chronicles: On "the psychology of possibility." *Harvard Magazine,* 42–71.
Flora, C. (2004). March). Hello, my name is Unique. *Psychology Today, 37*(2), 44.
Freud, S. (1904). *The psychopathology of everyday life*. Berlin: Verlag.
Freud, S. (1916). *Leonardo da Vinci: A study in personality* (A. A. Brill, Trans.). New York: Vintage Books.
Gardner, H. (1993). *Creating minds*. New York: Basic Books.
Goudreau, J. (2015, August 5). 13 surprising ways your name affects your success. *Business Insider.*
Grierson, B. (2014). What if age is nothing but a mind-set? *The New York Times Magazine's Health Issue.*
Hao, L., Hotz, V. J., & Jin, G. Z. (2008). Games parents and adolescents play: Risky behavior, parental reputation and strategic transfers. *The Economic Journal, 118*(528), 515–555.
Harris, J. R. (2006). *No two alike: Human nature and human individuality*. New York: Norton.
Hartshorne, J. K. (2010). Ruled by birth order? *Scientific American Mind, 20*, 18–19.
Hogan, R. (1976). *Personality theory: The personological tradition*. Englewood Cliffs: Prentice-Hall.
Huff, D. (1993). *How to lie with statistics*. New York: Norton.
Kabat-Zinn, J. (2003). Mindfulness based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, V*(2), 144–156.
Kagan, J. (1965). Impulsive and reflective children. In J. Krumboltz (Ed.), *Learning and the educational process* (pp. 133–161). Chicago: Rand McNally.
Kagan, J. (1989). Back cover of E. J. Langer, *Mindfulness*. Boston: Da Capo Press.
Kellerman, J. M. (2016). Personal communication.
Kellerman, J. M., & Laird, J. D. (1982). The effect of appearance on self-perceptions. *Journal of Personality, 50*(3), 296–351.
Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology, 32*(2), 311–328.
Langer, E. J. (1989). *Mindfulness*. Boston: Da Capo Press.
Langer, E. J. (1997). *The power of mindful learning.*
Langer, E. J. (2006). *On becoming an artist: Reinventing yourself through mindful creativity*. New York: Ballantine Books.
Langer, E. J. (2008). *The power of mindful learning*. Boston: Da Capo Press.
Langer, E. J. (2009). *Counterclockwise: Mindful health and the power of possibility*. New York: Ballantine Books.
Langer, E. J. (2014). *Mindfulness* (25th Anniversary ed.). Boston: Da Capo Press.
Langer, E. J., & Abelson, R. P. (1974). A patient by any other name: Clinical group difference in labeling bias. *Journal of Consulting and Clinical Psychology, 42*(1), 4–9.
Langer, E. J., Bashner, R. S., & Chanowitz, B. (1985). Decreasing prejudice by increasing discrimination. *Journal of Personality and Social Psychology, 49*(1), 113–120.
Langer, E. J., Beck, P., Winman, C., Rodin, J., & Spitzer, L. (1979). Environmental determinants of memory improvement in late adulthood. *Journal of Personality and Social Psychology, 37* (11), 2003–2013.
Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interaction. *Journal of Personality and Social Psychology, 36*(6), 635–642.
Langer, E. J., Cohen, M., & Djikic, M. (2012). Mindfulness as a psychological attractor: The effect on children. *Journal of Applied Social Psychology, 42*(5), 1114–1122.
Langer, E. J., Djikic, M., Pirson, M., Madenci, A., & Donohue, R. (2010). Believing is seeing: Using mindlessness (mindfully) to improve visual acuity. *Psychological Science, 21*(5), 661–666.

Langer, E. J., Fiske, S., Taylor, S. E., & Chanowitz, B. (1976). Stigma, staring, and discomfort: A novel-stimulus hypothesis. *Journal of Experimental Social Psychology, 12*(5), 451–463.

Langer, E. J., Janis, I. L., & Wolfer, J. A. (1975). Reduction of psychological stress in surgical patients. *Journal of Experimental Social Psychology, 11*, 155–165.

Langer, E. J., & Piper, A. I. (1987). The prevention of mindlessness. *Journal of Personality and Social Psychology, 53*(2), 280–287.

Langer, E. J., & Rodin, J. (1976). The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. *Journal of Personality and Social Psychology, 34*, 191–198.

Langer, E. J., & Saegert, S. (1977). Crowding and cognitive control. *Journal of Personality and Social Psychology, 35*(3), 175–182.

Levinson, D. J. (1978). *The seasons of a man's life*. New York: Alfred A Knopf.

Levy, B., & Langer, E. J. (1984). Aging free from negative stereotypes: Successful memory in China and among the American deaf. *Journal of Personality and Social Psychology, 66*(6), 989–997.

Maslow, A. H. (1946). Problem-centering versus means-centering in science. *Philosophy of Science, 13*(4), 326–321.

McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self*. New York: William Morrow.

McAdams, D. P. (2006). *The redemptive self: Stories Americans live by*. New York: Oxford University Press.

McAdams, D. P. (2015). *The art and science of personality development*. New York: Guilford Press.

McAleavey, A. A., & Castonguay, L. G. (2015). The process of change in psychotherapy: Common and unique factors. In O. C. G. Gelo, A. Pritz, & B. Rieken (Eds.), *Psychotherapy research: Foundations, process, and outcome* (pp. 293–310). New York: Springer Science.

McBurney, P. (2002). Review of Statistics as Principled Argument by R. P. Abelson. *Informal Logic, 2*(3), 275–278.

McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*, 81–90.

Mehrabian, A. (2001). Characteristics attributed to individuals on the basis of their first names. *Genetic, Social, and General Psychology Monographs, 127*, 59–88.

Neisser, U. (1976). *Cognition and reality: Principles and implications of cognitive psychology*. San Francisco: W. H. Freeman.

Pagnini, F., Phillips, D., Bosma, C. M., Reece, A., & Langer, E. J. (2016). Mindfulness as a protective factor for the burden of caregivers of amyotrophic lateral sclerosis patients. *Journal of Clinical Psychology, 72*(1), 101–111.

Paulhus, D. L., Trapnell, P. D., & Chen, D. (1998). Birth order effects on personality and achievement within families. *Psychological Science, 10*(6), 482–488.

Peck, R., Casella, G., Cobb, G. W., Hoerl, R., & Nolan, D. (2005). *Statistics: A guide to the unknown* (4th ed.). Boston: Cengage Learning.

Robins, R. W., Fraley, R. C., & Krueger (Eds.). (2009). *Handbook of research methods in personality psychology.* New York: Guilford Press.

Rodin, J., & Langer, E. J. (1977). Long-terms effects of a control-relevant intervention with the institutionalized aged. *Journal of Personality and Social Psychology, 35*(12), 897–902.

Ruark, J. (2010). The art of living mindfully. *The Chronicle of Higher Education.*

Rubinstein, L., Demick, J., & Langer, E. J. (2016). *Validating counterclockwise mindfulness as a treatment for chronic pain*. Manuscript in preparation.

Sulloway, F. J. (1996). *Born to rebel: Birth order, family dynamics and creative lives*. New York: Pantheon.

Taylor, S. E., & Langer, E. J. (1977). Pregnancy: A social stigma? *Sex Roles, 3*(1), 27–35.

Thomas, A., & Chess, S. (1977). *Temperament and development*. New York: Brunner/Mazel.

Tippett, K. (2015). Ellen Langer—Science of mindlessness and mindfulness. Transcript from *On being with Krista Tippett.*

Twenge, J. M., Abebe, E. M., & Campbell, W. K. (2010). Fitting in or standing out: Trends in American parents choices for children's names, 1880-2007. *Social Psychological and Personality Science, 1*(1), 19–25.

Wapner, S., & Demick, J. (2002). The increasing *contexts* of *context* in the study of environment-behavior relations. In R. B. Bechtel & A. Churchman (Eds.), *Handbook of environmental psychology* (pp. 3–14). New York: Wiley.

Wapner, S., & Demick, J. (2003). Adult development: The holistic, developmental, systems-oriented perspective. In J. Demick & C. Andreoletti (Eds.), *Handbook of adult development* (pp. 63–83). New York: Kluwer.

White, S. H. (1965). Evidence for a hierarchical arrangement of learning processes. *Advances in Child Behavior and Development, 2*, 187–220.

Whitehead, A. N. (1922). *The rhythm of education*. New York: Macmillan.

Zentner, M., & Bates, J. E. (2008). Child temperament: An integrative review of concepts, research programs, and measures. *European Journal of Developmental Science, 2*(1/2), 7–37.

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Mindfulness in Action: The Emergence of Distinctive Thought and Behavior

Robin R. Vallacher, Matthew S. Jarman and Steven S. Parkin

Sometimes people seem mindless, behaving in an automatic, trigger-like fashion without considering their options and largely oblivious to the consequences of what they are doing. At other times, people seem mindful, consciously aware of what they are doing, acting with purpose, and sensitive to other possible courses of action. These different forms of mindedness are each associated with distinct and influential programs of research, with the work on mindlessness launched in the late 1970s and the work on mindfulness emerging as a predominant theme at the turn of the twenty-first century. And each perspective owes its genesis in large part to the mind of Ellen Langer. Her groundbreaking work on mindlessness (e.g., Langer 1978) set the stage for subsequent theory and research concerning automatic versus controlled processes (e.g., Bargh 1989) and peripheral/heuristic versus central/systematic processing (e.g., Chaiken 1987; Petty and Cacioppo 1986). Her work on mindfulness (e.g., Langer 1989), meanwhile, was prescient in focusing subsequent scientific attention on states of mind that had previously been the province of practitioners in the Buddhist tradition and others who practice meditation. In all, an impressive and enviable set of enduring effects to have on social psychology.

Langer's work also influenced action identification theory, developed by Robin Vallacher and Dan Wegner in the 1980s (Vallacher and Wegner 1985, 1987; Wegner and Vallacher 1986). The mindlessness perspective provided support for the theory's emphasis on people's limited range of conscious awareness in the conduct of action. And although Vallacher and Wegner were blissfully unaware of the mindfulness

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perspective that had yet to catch hold in the field, there are clear links between the theory's principles and Langer's view of mindfulness as the "process of drawing novel distinctions" (Langer and Moldoveanu 2000b). Accordingly, our aim in this chapter is to make explicit the resonance between action identification principles and the nature of mindfulness as articulated by Langer and her colleagues.

We begin by providing an overview of the burgeoning literature of mindfulness, much of it inspired by Langer and her colleagues. We next provide a brief synopsis of action identification theory, emphasizing those aspects that are especially relevant to rethinking key notions of the mindfulness process, with an eye toward resolving some contentious issues that divide theorists. With the stage set in this manner, the subsequent sections reframe the essential features of mindfulness—especially the process of drawing novel distinctions—from the standpoint of an enlightened perspective on action identification and related lines of theory and research.

The Nature of Mindfulness

People are often described as cognitive misers, expending their cognitive resources in a maximally efficient manner (Fiske and Taylor 2013). This tendency is commonly manifest as a reliance on behavioral scripts, habitual modes of thought, and heuristic information processing that do not tax a person's limited executive resources. Sometimes, of course, this mode of thinking is sufficient to provide adaptive judgments, decisions, and choice of action alternatives—or else it would not have been selected for. But such relatively mindless interaction with the environment robs the person of the opportunity to engage the present moment in a conscious, intentional manner. Beyond that, mindless thinking can result in unwarranted judgments and counterproductive action in situations characterized by novel, complex, or ambiguous information arrays. It is also antithetical in making desirable and beneficial changes in the way a person thinks and behaves. Poor health, unsustainable consumption, and discrimination are all partly rooted in automatic and maladaptive mental and behavior scripts. To maximize the quality and effectiveness of one's interaction with the environment, a cognitive orientation characterized by mindfulness has a clear advantage (e.g., Brown and Ryan 2003; Carmody and Baer 2008; Condon et al. 2013; Djikic et al. 2008; Goldin and Gross 2010; Kristeller and Hallett 1999; Segal et al. 2002; Wadlinger and Isaacowitz 2011).

The concept of "mindfulness" has clear intuitive appeal, but upon closer examination it loses its clarity and becomes problematic, open to different theoretical interpretations, each with its own notion of the underlying subjective experience. In broad terms, mindfulness can be understood in terms of two quite different traditions: Eastern contemplative versus Western noncontemplative (Ie et al. 2014). Although both forms are defined in psychological research as involving present-focused attention (e.g., Brown and Ryan 2003; Langer and Moldoveanu 2000b), they posit different routes to this state.

Contemplative forms are often rooted in attentional regulation (e.g., from meditation practice) and a nonjudgmental stance toward ongoing experience

(Bishop et al. 2004; Kabat-Zinn 1994). The western, noncontemplative form of mindfulness was developed and championed by Ellen Langer (e.g., Langer 1992). In this perspective, mindfulness is defined as the "process of drawing novel distinctions" (Langer and Moldoveanu 2000b, p. 1), where distinctions are defined as "novel or unusual features in the viewing field" (Levy et al. 2001, p. 189). By actively drawing novel distinctions, people rely less on behavioral scripts and perceptual categories based on past experience, a mental orientation that places them in the present moment as they relate to, and make sense of, their changing experience. Thus, Langer describes mindfulness as "a state of openness to novelty in which the individual actively constructs categories and distinctions" (Langer 1992, p. 289). A key aspect that distinguishes this subjective orientation from other sense-making processes is that individuals are consciously aware of the novel distinctions. This awareness, in turn, makes the individual more sensitive to the context-dependent nature of his or her behavior (Langer 1992).

Langer's research has identified a wide range of novel distinctions that can constitute mindfulness, ranging from the trivial distinctions observed in pictures (Levy et al. 2001) to alternative perspectives concerning ethnic diversity (Langer and Moldoveanu 2000a). Mindfulness may well subsume a wide variety of "novel distinctions," but it remains for theory and research to address how these various distinctions differ in their nature and implications for mental process. The majority of research on novel distinctions, moreover, focuses on the short-term benefits of this orientation for individuals (e.g., promoting a present-focused openness to new information or alternative perspectives), leaving the long-term adaptive benefits of mindfulness largely uncharted.

We suggest that appreciating the different levels of abstraction at which distinctions are drawn is important for advancing the understanding of mindfulness and its long-term adaptive benefits. With that goal in mind, we reframe the mindfulness experience in terms of the principles of action identification theory, a perspective on the relationship between mind and action that emphasizes the hierarchical nature of mental process. In this perspective, there is a natural progression toward increasingly superordinate and abstract understanding, but this progression is built on mutual feedback between thinking and doing and thus can be easily derailed in everyday contexts. Mindfulness experience and interventions may provide an optimal context for nurturing the emergence of progressively abstract and personally meaningful states of awareness, setting the stage for insightful and novel distinctions. In a concluding section, we point to the theoretical implications of this perspective and to its potential applications for personal wellbeing.

Action Identification Theory

Viewed in fine-grained terms, daily life consists of myriad details—a successive series of discrete motor movements, reactions, impulses, and habitual behaviors. Action identification theory (Vallacher and Wegner 1987) is a set of principles that

specifies how the granular nature of experience relates to the higher order subjective nature of experience that provides meaning and purpose. The starting point for the theory is the inherently ambiguous and uncertain meaning of action. Thus, two people doing exactly the same thing may have very different subjective notions of what they are doing. By the same token, the same person can derive wholly different meanings from the same action performed at different times or in different contexts. The principles of action identification specify how people resolve the inherent uncertainty of action and come to know what they are doing, and use this subjective knowledge in service of self-regulation and self-understanding.

Levels of Action Identification

The interpretative elasticity of action essentially means that any action can be identified, by the actor as well as by observers, in myriad ways. The act of reading a journal article, for example, may be identified as "following a line of reasoning," "learning about a new theory," "keeping up with the literature," "reading words," or "turning pages." The set of identities for an action may be quite diverse in content but they can be structured within a hierarchy that ranges from *low-level* identities indicating *how* an action is performed to increasingly *higher-level* identities referring to *why* an action is done or what its effects and implications are. The lower-level identities in this hierarchy commonly reflect the movement-defined and concrete aspects of an action, whereas the higher-level identities are superordinate, providing integration for the lower-level identities, and tend to be more abstract.

Identification level is a relative concept—whether a particular act identity is low- or high-level depends on the act identity with which it is compared. Thus, the act identity "following a line or reasoning" is high-level with respect to "reading words," but low-level with respect to "learning a new theory." A primary task of action identification theory is to specify the factors that make one act identity in the identity hierarchy consciously salient to the exclusion of the others, thereby reducing the uncertainty of action.

Principles of Action Identification

An action may admit to a wide range of act identities, but people typically experience little hesitancy in identifying what they are doing, have done, or intend to do. This constraint on the open-ended nature of action identification is due to the interplay of three principles.

The first principle holds that at any one time, people regulate their behavior with respect to a single act identity. The act identity that becomes salient provides a frame of reference for initiating and carrying out an action, and for reflecting on the action's performance. Thinking about one's behavior in terms of a single act

identity is central to models of self-regulation—indeed, to any theory that posits a link between mind and action (e.g., Carver and Scheier 2003; James 1890; Miller et al. 1960; Vallacher and Nowak 1999). In some instances, a person's salient act identity is relatively high level, representing the action's purpose, goal, effects, consequences, or implications for self-evaluation. But the person's salient act identity in other instances may be relatively low level, reflecting the action's more molecular and concrete features. The level of a person's salient act identity is determined by the second and third principles of the theory.

According to the second principle, when both a low-level and a high-level act identity are cognitively available, there is a tendency for the higher-level identity to become salient. In essence, this means that people prefer to frame what they are doing, have done, or intend to do in higher-level rather than lower-level terms (e.g., Wegner et al. 1984). Thus, when thinking about their behavior, people's attention gravitates toward the action's larger meanings—whether it reflects a goal, demonstrates a personal skill, is in service of values and standards, or represents a feature of their self-concept. The tendency to identify action in higher-level, superordinate terms is stronger for actions that have become well learned and mastered, obviating the need for regulation with respect to the lower-level components of the action. This is easy to appreciate for skilled actions, such as music performance or sports activities. An experienced piano player, for instance, is likely to identify what he or she is doing as "self-expression" or perhaps as "entertaining others" rather than as "hitting the right keys" (Vallacher and Wegner 1987).

But the preference for higher-level understanding is apparent in social behavior as well. Whereas a person with low confidence in his or her social skills might view "going on a date" as "smiling" or "saying interesting things," someone with greater confidence and experience might think about dating as "getting to know someone" or simply as "having a good time." When a higher-level act identity achieves salience for a person, it tends to persist and provide a frame of reference for thinking about the action—provided the action's performance is relatively fluid, effective, or proceeds without disruption. Once people develop sufficient experience with an action, then, they become concerned with the action's larger meaning, with the lower-level details unfolding in a relatively automatic or mindless fashion.

If the preference for higher-level act identities were the only basis for action identification, people's minds would be populated with increasing abstract goals, implications, and consequences. This clearly is not the case. Sometimes people are focused on the mechanical features of their behavior, despite the press for comprehensive understanding of what they are doing. This constraint is provided by the theory's third principle, which holds that when an action cannot be effectively maintained with respect to its current act identity, there is a tendency for a lower-level act identity to become salient. The movement to lower-level identification occurs when a person undertakes a difficult action or when he or she experiences disruption in the conduct of a well-learned or personally easy action. The person may wish to maintain the action with its effects and goals in mind (in line with the second principle), but a lower-level identity may be necessary to perform the action effectively (e.g., Vallacher et al. 1989). The trade-off between

these competing concerns tends to promote an *optimal level of action identification* (Vallacher 1993; Vallacher and Wegner 2012).

Returning to the dating example, if the socially skilled person found that he or she was not getting to know the date or was not having a particularly good time, his or her representation of the dating event may transition to lower-level act identities such as "ask better questions" or "lighten things up with a joke." The disruption to the person's high-level identity of dating, in other words, shifts his or her attention to more detailed act identities with which he or she can regain control of the action. More generally, the meaning associated with an action is influenced by reality in the form of low-level act identities as well as by preference in the form of high-level act identities.

The Emergence Process

The three principles work together to impart a dynamic interplay to the connection between mind and action. An action's lower-level act identities are adopted out of necessity rather than preference, and thus tend to be relatively unstable. Because of the preference is for higher-level identification, the movement to a lower-level identity to regain control of the action provides the precondition for the adoption of a higher-level identity specified in the second principle. The tendency to embrace a higher-level act identity for an action when a person is in a lower-level state is referred to as the *emergence process*.

The emergence process sometimes simply amounts to a temporary disruption to a person's goals and concerns. In such instances, after a brief detour to lower-level act identities to regain control of an action, the person is back on track to implement the original higher-level identity. This is not always the case, however. Indeed, if it were, people would never develop new insights into what they do or chart new courses of action. Research on action identification has demonstrated a more interesting scenario, such that when a high-level act identity has been abandoned in order to regain control of an action at a lower level, the person becomes sensitive to cues to different higher-level meaning in the action context. These cues may provide an avenue of emergence to a new way of understanding the action (e.g., Wegner et al. 1984, 1986). In effect, difficulties and disruptions are essential to cognitive growth: without the experience of a lower-level act identity, the change from an existing high-level identity to a new way of thinking about the action would not occur.

The emergence scenario characterizes everyday action but it can also be observed on a longer time scale. With increasing proficiency and experience at an action, for example, people progress to higher-level act identities, thinking about the action in terms of its consequences, self-evaluative implications, and other forms of meaning, with the lower-level act identities becoming correspondingly less salient. This "sealing off" of lower-level act identities with increasing experience and proficiency has been demonstrated for a variety of skilled actions, including piano playing, essay writing, tennis, karate, and videogames (Vallacher and Wegner

1985). There is a common sequence in each case. People undertake the action relatively high-level identity in mind (e.g., a goal), move to lower-level identities as they learn the action, and then move to a higher-level act identity as the action becomes mastered. The emergent identity in this scenario, however, is often quite different from the antecedent high-level identity that motivated the person to engage in the action in the first place. A person may initially look upon playing the piano as "impressing my friends," but after a sustained period of low-level identification necessary to acquire proficiency playing the piano, he or she may come to look upon piano playing as "relaxing myself." The scenario in which an emergent act identity differs from the action's antecedent identity provides a means by which people develop new motives, concerns, and insights into their mental make-up.

The emergence process can also promote the development of negative higher high-level identities for what one is doing or has done. People can deflect an undesirable high-level characterization of their behavior, for example, as long as they have a more flattering depiction available at the same (or higher) level of identification. A person might be told that he or she has "demonstrated insensitivity" toward another person, for example, but remain unperturbed by this feedback if he or she identifies the action at issue as "offering blunt but constructive feedback." However, if the person is induced to focus on the action's lower-level details (e.g., the specific words or tone of voice), he or she is primed for emergence and thus is more likely to accept the unflattering higher-level characterization of the action (e.g., Wegner et al. 1986). Because of the emergence process, then, people can come to accept responsibility for their actions that have negative consequences and implications, and they become open to new insights into their personality dispositions and motives.

When conceptualized in terms of the emergence process, the subjective meaning of one's action ceases to be something static, inflexible, and universal, but instead represents a coherent state in an evolving dynamical system of mind and action (Vallacher and Nowak 2007; Vallacher and Wegner 2012). This dynamic view of action representation provides insight into why subjective meaning can be experienced in very different ways, from the attainment of personal fulfillment to adherence to cultural norms (Michaels et al. 2013). In each case, a higher-level identity provides a coherent understanding of one's behavior, whether the specific lower-level acts enacted in a local context or the pattern of one's lower-level acts enacted across diverse contexts and time frames.

Action Identification and the Mindfulness Experience

One's behavior is obviously not the only thing that one thinks about in daily life, and it is certainly not the only content of thought associated with the mindfulness experience. World events, movies, food preferences, artwork, new acquaintances, childhood memories, vacation plans, and even the weather provide substance for thought, and mindfulness theory and research does not exclude these or any other

topics from being thought about in a mindful manner. However, the principles at work when people think about their behavior have considerable generality for mental experience (Vallacher and Wegner 2012) and thus may prove relevant to understanding the basic features of the mindfulness experience. Indeed, the process of drawing novel distinctions, which is a defining feature of mindfulness in Langer's perspective, can be reframed in terms of the interplay of action identification principles. And because action identification theory is explicitly concerned with the hierarchical structure of consciousness, it holds potential for clarifying how, and to what extent, the mindfulness experience is associated with people's tendency to generate concrete versus abstract distinctions.

Abstraction Variability in Drawing Novel Distinctions

In principle, people could think about their behavior in multiple ways and at different levels of abstraction. In reality, people tend to converge on one act identity at a time, with this act identity representing a particular level in the overall hierarchical structure of action identification. Accordingly, the distinctions they draw about their action will be constrained by the level of identification that is currently salient. For one thing, novel distinctions at a similar level of abstraction are more likely to reach conscious awareness because they are more relevant to issues of action regulation and evaluation. Beyond that, novel distinctions are made at a similar abstraction level via a processing shift (e.g., Schooler 2002), in which the cognitive processing of the act identity transfers to the cognitive processing through which novel distinctions emerge.

Thus, under conditions that promote a relatively low level of action identification, the distinctions that people can draw will be limited to relatively concrete and movement-defined features of the action. In thinking about playing tennis in low-level terms, for example, a person might focus on the difference between a forehand and a backhand stroke. Under conditions that promote more comprehensive and abstract act identities, meanwhile, the distinctions that people draw will pertain to divergent consequences, effects, and self-evaluative implications of the action in question. Thus, the tennis player thinking about his or her behavior in relatively high-level terms might distinguish between winning and losing or between showing his or her resilience and buckling under pressure.

The level of abstraction in drawing distinctions is general across all topics of thought. In focusing on the details of different paintings, for example, people are likely to make distinctions between the paintings' respective choice of medium (e.g., oil vs. watercolor) or subject matter (e.g., portrait vs. still life). When the paintings are considered in higher-level terms, however, people are likely to make distinctions concerning their respective eras (e.g., contemporary vs. Renaissance) or themes (e.g., human potential vs. human suffering). In similar fashion, vacation plans can be thought about in low-level terms, with the distinctions that come to mind centering on packing luggage, putting an "away" message on the phone, and

changing currency. When thought about in high-level terms, however, vacation plans are distinguished in terms of such considerations as having an exciting or a relaxing time or visiting familiar versus new places.

Thoughts about other people can also vary in their level of abstraction, ranging from attention to mannerisms and physical features to inferences about moral values and competence. And again, each level of abstraction is associated with a corresponding set of distinctions that come to mind. Low-level thinking about people promotes distinctions about their respective physical features, for example, whereas higher-level thinking is associated with distinctions about the personalities of different people.

The Emergence Process in Mindfulness

Distinctions are easy to generate. Not all distinctions are novel, however, nor are they necessarily memorable, durable, or personally meaningful. For distinctions to be mindful, they must go beyond preconceived categories and received knowledge to reflect a new awareness of a behavioral context. In action identification, new insights and their associated distinctions are experienced by means of the emergence process. People may have a well-learned higher-level identity for their behavior that resists change, but under certain conditions they may develop a new meaning for what they are doing or have done. In rare cases, the emergence of a new higher-level identity may be experienced as an epiphany with an "Aha!" component. The emergence of new meanings for one's action, particularly meanings that have are innovative and elicit an "Aha" reaction, would seem to capture an important component of mindful experience.

Although supportive research has yet to be conducted, the generation of new insights and novel distinctions via the emergence process for topics other than action certainly seems plausible. On viewing a piece of modern art, for example, a person might initially see little except for geometric forms and color combinations, but with continued viewing a higher-level meaning—a reflection on the human condition, perhaps—might come into focus and be experienced as a novel insight. In similar fashion, new insights into people, politics, or interior design can be understood as emergent products of mental process that provide a novel reconfiguration of specific events, images, or objects.

It is important to recognize that the emergence process entails a disruption to one's normal way of thinking about the topic in question. Indeed, the research on action identification shows that unless a person's high-level identity is deconstructed into lower-level identities, he or she is resistant to any other high-level identity, even one that is provided by a credible source (e.g., Vallacher and Nowak 1999; Wegner et al. 1984, 1986). For a person to embrace a new way of interpreting or evaluating his or her behavior, the existing interpretative frame must be felt as inadequate or irrelevant to the current circumstances. Assuming this same precondition for emergent understanding characterizes topics other than action, the

recognition of insightful high-level novel distinctions requires temporary incoherence in a person's mental state. From this disassembled state of mind, the person is receptive to new ways of thinking about the topic in question, eventually converging on one of these higher-level frames. The notion that a shift to a lower level of thinking is a precondition for mindfulness-based change in the meaning or evaluation of behavior represents a testable hypothesis that warrants empirical research.

Meta Mindfulness

To this point we have focused on how people think about personally relevant topics (e.g., their behavior, other people, events) and how such mental dynamics can play out in a manner that captures the essence of mindfulness. Thus, the emergence process provides a scenario by which people become aware of the granular basis of their global thoughts and judgments (e.g., the overlearned details of their actions, the specific events underlying person judgments and attitudes) and, because of the press for higher-level integration, become open to new ways of thinking about these topics. But mindfulness itself can become the focus of thinking, which suggests that the dynamics of mental process we have described may be useful in understanding how best to promote a mindfulness experience. Perhaps, in other words, our perspective can provide guidance for *meta mindfulness*—how to become mindful about being mindful.

Surprisingly little empirical attention has been devoted to how thinking *about* mindfulness corresponds to different ways of *being* mindful.[1] Consequently, some very basic questions have yet to be answered. What do people think they are doing when attempting to become mindful? Does thinking explicitly about becoming mindful facilitate or hinder the achievement of mindfulness? How do thoughts about mindfulness change over time as people become more adept at generating novel distinctions? Does this pattern of change correspond to the patterns of change associated with the progressive mastery of action, as described by principles of action identification?

The Coordination of Mindful Action

Suppose a person wants to become mindful about preparing a meal. Rather than seeing the action as "preparing a meal," he or she may adopt a new frame of reference for thinking about the action—"preparing the meal with present-moment

[1]For a discussion of this issue with respect to *contemplative* forms of mindfulness, see Parkin et al. (2014).

awareness," for example. This mindfulness act identity reinstates the lower-level act identities involved in meal preparation, but coordinates them in service of preparing the meal mindfully. The act identity a person uses to coordinate mindful cooking, however, will depend on his or her understanding of mindfulness. Thus, a student of Langer's work might think of it in terms of "noticing new aspects of the cooking process," whereas a student of Buddhism might think of it in terms of "nonjudgmentally attending to the ongoing flow of experience."

It is important to note that the intentions associated with mindfulness can vary a great deal in their respective level of abstraction, in the same way that intentions for any action admit to considerable hierarchical variability. So whereas a person might have a relatively low-level mindful intention ("seeing the act in a new light"), he or she could approach the action with one of several higher-level intentions that are touted as benefits of mindfulness—"enhancing psychological well-being," for example, or "psychological flourishing." Each of these mindful act identities provides a distinct frame of reference for organizing thoughts about the lower-level act identities for preparing a meal.

Because the set of mindful act identities exist in a hierarchical structure, their effectiveness in promoting mindful action may conform to the principles that determine optimal action identification in everyday contexts. Thus, "noticing new aspects of the cooking process" is a lower-level component of "enhancing psychological well-being"—the person must first become proficient at generating novel distinctions surrounding meal preparation before he or she can maintain a mindfulness orientation in terms of a conscious concern with enhanced psychological wellbeing. In like manner, because "psychologically flourishing" is superordinate to "enhancing psychological well-being" (i.e., one flourishes *by* enhancing well-being), the person must first achieve competence at increasing psychological wellbeing before thinking about his or her mindfulness in terms of increasing overall psychological flourishing. In short, the emergence of progressively higher-level mindfulness goals may conform to the emergence scenario associated with action mastery generally (Vallacher 1993). Only when the lower-level mindfulness goals have been learned well enough to render their monitoring unnecessary and they can function synergistically to promote a person's higher-level mindfulness goals.

Recalibration of Mindfulness in Everyday Life

The foregoing suggests that mindfulness act identities become increasingly higher level as a person becomes experienced with mindfulness. This may well be a general trend that can be facilitated with sustained mindfulness training. Thus, for example, people who practice seeing things from a new perspective on a regular basis may have become proficient at keeping themselves in the present moment via novel distinctions, enabling them to guide their action across different situations by focusing on lofty goals such as enhancing their psychological wellbeing.

Fluctuations in level of identification across time and circumstances are nonetheless likely to be experienced, even by those who are well versed in mindfulness, because of the noisy and disruptive nature of life. In the same way that high-level act identities can prove difficult to maintain in disruptive and challenging settings, high-level mindfulness may prove difficult to maintain in the face of emotional difficulties, stressful situations, unexpected events, and other trying circumstances. People, then, can be expected to recalibrate their mindfulness goals as they adapt to such circumstances. Factors such as stress, fatigue, and novel action settings, for example, can lower the optimal level of mindful identification to simple awareness of trivial contextual distinctions. Increased stress or heightened energy expenditure, for example, might deplete people's cognitive resources (e.g., Baumeister et al. 2000), making it difficult to maintain mindfulness with respect to their customary level of identification. Mindfulness, like other domains of thought and action, is not a single static state, but a dynamic process that is responsive to the forces encountered in mundane and extraordinary circumstances.

The recognition that some thoughts are more optimal than others for maintaining mindful action does not imply that people need to constantly deliberate whether their thoughts are at the optimal level of mindfulness. In becoming mindful, people acquire experience in bringing their thoughts in line with the difficulties of the action. As with mental control generally, converging on an optimal level of action identification is a natural tendency of mind that occurs automatically as people attempt to satisfy the competing goals of comprehensive understanding and effective performance. The convergence on an optimal level of mindfulness identification is a plausible manifestation of this basic scenario of mind and action.

Summary, Implications, and the Road Ahead

It is tempting to attribute special qualities to the mindfulness experience. Mindfulness may well be unique state of mind, but its uniqueness may derive from the special conditions conducive to its occurrence rather than from unique mental processes. Our aim in this chapter was to raise the possibility that mindfulness resulting from the generation of novel distinctions can be understood in terms of the basic principles of mind and action articulated in action identification theory.

Particularly, when defined in terms of openness to experience and the drawing of novel distinctions, mindfulness may reflect the emergence scenario that has been established in research on the feedback loop between mind and action (e.g., Vallacher and Wegner 2012). In this view, settings conducive to mindfulness disassemble a person's habitual mental sets by focusing his or her attention on the fine-grained texture of the present moment. Induced to focus on the lower-level elements of experience that are normally sealed off from awareness, the person is effectively primed for new ways of thinking in accordance with the press for higher-level understanding that characterizes action identification.

We also raised the possibility that the mindfulness process itself can be identified and regulated, in the same way that other categories of action are subject to reflection and maintenance. In particular, the emergence scenario that is responsible for new and progressively higher level understanding of action may also characterize the trajectory by which people become proficient at being present. Thus, people who are new to mindfulness via novel distinctions would benefit from instructions to think in very low-level terms about the experience. Focusing on distinctions in a situation, for example, is a concrete and controllable act that is likely to be effective in establishing a mindfulness trajectory in the context of Langer's research. Presumably, as a person gains experience with mindfulness, he or she may engage the process with progressively higher-level intentions—a focus on distinctions might give way to "being present" and eventually to relatively abstract mindfulness identities such as "enhancing psychological well-being."

Perhaps those who have difficulty in achieving mindfulness are approaching the experience with intentions that do not correspond to this scenario. If so, the action identification perspective can prove useful for promoting the development of mindfulness skills. Thus, if a person finds that he or she is unable to make progress toward mindfulness goals, an examination of his or her mindful act identity levels may prove useful. This might reveal that the person is attempting to maintain a high-level mindful act identity without first mastering the foundational low-level actions. Conversely, perhaps the person has mastered the low-level actions but cannot connect to higher-level mindfulness goals.

At this point, the extension of action identification principles to the nature of mindfulness is largely speculative. But, this perspective has heuristic value and may point the way to new avenues of research that can ground the mindfulness experience in terms of basic principles of mind and action. In the spirit of mindfulness, of course, we should remain open to the possibility that the principles at work in mindfulness experience can provide new insight into the feedback between mind and action. In either case, the connection between action identification and mindfulness represents coming full circle, recapturing the influence that Ellen Langer's approach to issues of the mind had on the minds of two novice social psychologists all those years ago.

References

Bargh, J. A. (1989). Conditional automaticity: Varieties of automatic influence in perception and cognition. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 3–51). New York: Guilford.

Baumeister, R. F., Muraven, M., & Tice, D. M. (2000). Ego depletion: A resource model of volition, self-regulation, and controlled processing. *Social Cognition, 18*, 130–150.

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., et al. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*, 230–241.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822–848.

Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine, 31*, 23–33.

Carver, C. S., & Scheier, M. S. (2003). Self-regulatory perspectives on personality. In T. Millon, M. J. Lerner, & I. B. Weiner (Eds.), *Handbook of psychology: Personality and social psychology* (pp. 185–208). Hoboken, NJ: John Wiley & Sons Inc.

Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. M. Olson, & C. P. Herman (Eds.), *Social influence: The Ontario symposium* (Vol. 5, pp. 3–39). Hillsdale, NJ: Erlbaum.

Condon, P., Desbordes, G., Miller, W. B., & DeSteno, D. (2013). Meditation increases compassionate responses to suffering. *Psychological Science, 24*, 2125–2127.

Djikic, M., Langer, E. J., & Stapleton, S. F. (2008). Reducing stereotyping through mindfulness: Effects on automatic stereotype-activated behaviors. *Journal of Adult Development, 15*, 106–111.

Fiske, S. T., & Taylor, S. E. (2013). *Social cognition: From brains to culture*. Los Angeles, CA: Sage Publications Ltd.

Goldin, P. R., & Gross, J. J. (2010). Effects of mindfulness-based stress reduction (MBSR) on emotion regulation in social anxiety disorder. *Emotion, 10*, 83–91.

Ie, A., Ngnoumen, C. T., & Langer, E. J. (2014). The Wiley Blackwell handbook of mindfulness. John Wiley & Sons.

James, W. (1890). *Principles of psychology*. New York: Holt.

Kabat-Zinn, J. (1994). *Wherever you go, There You Are: Mindfulness meditation in everyday life*. New York: Hyperion Books.

Kristeller, J. L., & Hallett, B. (1999). Effects of a meditation-based intervention in the treatment of binge eating. *Journal of Health Psychology, 4*, 357–363.

Langer, E. J. (1978). Rethinking the role of thought in social interaction. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2, pp. 35–58). Hillsdale, NJ: Erlbaum.

Langer, E. J. (1989). *Mindfulness*. Reading, MA: Addison-Wesley.

Langer, E. J. (1992). Matters of mind: Mindfulness/mindlessness in perspective. *Consciousness and Cognition, 1*, 289–305.

Langer, E. J., & Moldoveanu, M. (2000a). Mindfulness research and the future. *Journal of Social Issues, 56*, 129–139.

Langer, E. J., & Moldoveanu, M. (2000b). The construct of mindfulness. *Journal of Social Issues, 56*, 1–9.

Levy, B. R., Jennings, P., & Langer, E. J. (2001). Improving attention in old age. *Journal of Adult Development, 8*, 189–192.

Michaels, J. L., Parkin, S. S., & Vallacher, R. R. (2013). Destiny is in the details: Action identification in the construction and deconstruction of meaning. In J. A. Hicks & C. Routledge (Eds.), *The experience of meaning in life* (pp. 103–115). New York: Springer.

Miller, G. A., Galanter, E., & Pribram, K. (1960). *Plans and the structure of behavior*. New York: Holt.

Parkin, S., Jarman, M. S., & Vallacher, R. R. (2014). Mindfulness: The intentional coordination of action. (Ms. under editorial review).

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.

Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford.

Schooler, J. W. (2002). Verbalization produces a transfer inappropriate processing shift. *Applied Cognitive Psychology, 16*, 989–997.

Vallacher, R. R. (1993). Mental calibration: Forging a working relationship between mind and action. In D. M. Wegner & J. W. Pennebaker (Eds.), *Handbook of mental control* (pp. 443–472). Englewood Cliffs, NJ: Prentice-Hall Inc.

Vallacher, R. R., & Nowak, A. (1999). The dynamics of self-regulation. In R. S. Wyer (Ed.), *Perspectives on behavioral self-regulation* (pp. 241–259). Mahwah, NJ: Erlbaum.

Vallacher, R. R., & Nowak, A. (2007). Dynamical social psychology: Finding order in the flow of human experience. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (2nd ed., pp. 734–758). New York: Guilford Publications.

Vallacher, R. R., & Wegner, D. M. (1985). *A theory of action identification*. Hillsdale, NJ: Erlbaum.

Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing: Action identification and human behavior. *Psychological Review, 94*, 3–15.

Vallacher, R. R., & Wegner, D. M. (2012). Action identification theory. In P. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories in social psychology* (pp. 327–348). London: Sage.

Vallacher, R. R., Wegner, D. M., & Somoza, M. P. (1989). That's easy for you to say: Action identification and speech fluency. *Journal of Personality and Social Psychology, 56*, 199–208.

Wadlinger, H. A., & Isaacowitz, D. M. (2011). Fixing our focus: Training attention to regulate emotion. *Personality and Social Psychology Review, 15*, 75–102.

Wegner, D. M., & Vallacher, R. R. (1986). Action identification. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 550–582). New York, NY: Guilford Press.

Wegner, D. M., Vallacher, R. R., Kiersted, G. W., & Dizadji, D. M. (1986). Action identification in the emergence of social behavior. *Social Cognition, 4*, 18–38.

Wegner, D. M., Vallacher, R. R., Macomber, G., Wood, R., & Arps, K. (1984). The emergence of action. *Journal of Personality and Social Psychology, 46*, 269–279.

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Priming the Mind to See Its Double: Mindfulness in a New Key

Louise Sundararajan and Sayyed Mohsen Fatemi

In accordance with the distinction made by Bloom (2007) between two distinct cognitive systems—"one for dealing with material objects, the other for social entities" (p. 149), we propose two forms of mindfulness—non-relational and relational. The standard exercises in Ellen Langer's cognitive mindfulness are primarily non-relational in orientation. However, since Langer capitalizes on awareness and engagement, we suspect that there is an implicit dimension of relational cognition in Langer's model. We decided to render explicit this relational dimension of Langerian mindfulness, thereby extending its benefits through a sense of emotional connectedness.

The topic of relational mindfulness will be broached in three steps: First, we delineate the core attributes of mindfulness as captured by Langer's cognitive model. We further use the notions of symmetry and symmetry restoration, borrowed from quantum mechanics, to elaborate on Langer's central claim that mindfulness is intimately connected with creativity. Next, we apply the Langerian formulation to the analysis of a relational mindfulness as exemplified by the mind-to-mind transaction with nature in Chinese aesthetics. Third, we report a study in which relational mindfulness was experimentally induced to test the hypotheses that (a) the capacity of human mind to see its double beyond the social arena can be primed; and (b) attunement with a virtual mind can reap unique mental health benefits such as tranquility and a sense of well-being associated with affiliative fantasies.

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Core Attributes of Mindfulness

The emphasis on "curiosity, openness, and acceptance" toward one's ongoing present experience (Bishop et al. 2004, p. 232) may be considered the core values shared by all models of mindfulness. But these core values are expressed differently across cultures. In mindfulness based on Eastern traditions, the emphasis is on the acceptance versus control dichotomy. In this context, mindfulness is understood in terms of not trying to alter the experience (Farb et al. 2010), not trying to control the world (Siegel 2007), and not understanding the self in terms of "a controller of perspectives" but rather as "an agent of intention" (Siegel 2007, p. 248). In the Western, Langerian model of mindfulness, by contrast, this set of values is couched in terms of creativity.

Mindfulness and Creativity

Central to Langer's model is the intimate connection between mindfulness and creativity. Langer claims that cognitive mindfulness fosters creativity with far reaching consequences for health and wellbeing (e.g., Langer 2009). There is robust empirical evidence (e.g., Langer 1989, 1997, 2005) in support of this claim. Outside the Langerian framework, meditation-based mindfulness is also closely associated with creativity, a connection well-documented in Asian history, and empirically supported by modern neuroscience (Horan 2009).

To understand the connection between mindfulness and creativity, we borrow the notion of symmetry from quantum mechanics. The hallmark of symmetry is superposition of possibilities as best represented by Schrödinger's cat. In the world of quantum mechanics, the cat is both live and dead—this is a state of symmetry. In the asymmetrical world of ours, the cat can be in either one or the other state but not both. But Schrödinger's cat seems to be the model of the creative mind for Ellen Langer. Her paradigm of cognitive mindfulness situates creativity in the freedom of the mind to make new distinctions as well as to transcend existing boundaries between conventional object categories. In particular, her cognitive mindfulness training capitalizes on the perception of similarities—perception that helps to reinforce the blurriness and permeability of boundaries between object categories, such that the cat can be live and dead at the same time, so to speak. To shed some light on the connection between creativity and mindfulness in Langer's framework, we turn to notions of symmetry, symmetry breakdown, and symmetry restoration in cognition.

Symmetry, Symmetry Breakdown, and Symmetry Restoration

According to Bolender (2010), the formal definition of symmetry is invariance in transformation. More specifically, a transformation is "a rule for moving things around" (p. 10); symmetry entails no restrictions in admissible transformations. Thus, the more things can be moved around in anyway (no restrictions in admissible transformations) but still look the same, the more symmetry there is. Water in a glass is an example of symmetry: "No matter which way you rotate it, and no matter to what degree, it will look the same" (p. 27). By contrast, asymmetry entails restrictions in admissible transformations. Using Schrödinger's cat as a prototype of symmetry, unrestricted admissible transformations can be formulated by the following algorithm:

Both A and B;
A=B. Where A stands for life and B death, both of which are simultaneously (superposition) applicable to the cat in the world of quantum mechanics.

By contrast, the restricted admissible transformations of asymmetry can be formulated by the following algorithm:

Either A or B;
A≠B. Where A stands for life and B death, which cannot be both in the asymmetrical universe we inhabit. Here, the boundaries of life and death are rigid and clear such that scrambled eggs cannot come out unscrambled again.

Cognition and Symmetry Breakdown. In nature, spontaneous symmetry breakdown results in a long chain of increasing restrictions in admissible transformations. A drop of water, for instance, contains all possible patterns of a snowflake. From this plethora of possibilities (i.e., unrestricted admissible transformations), only one particular snowflake pattern emerges, when that drop of water freezes and all the other possible patterns for snowflakes are lost (severe restriction in admissible transformations).

Bolender (2010) claims that symmetry breakdown also happens in cognition, as evidenced by the four measurement scales: nominal (A versus not A), ordinal (the former distinction plus direction of difference, i.e., greater-than and less-than), interval (the former distinction plus quantifiable amount of difference), and ratio (the former distinction plus an absolute zero). Note the increasing restriction in admissible transformations with each added "plus": In nominal scale, if (1) is assigned to males and (2) to females, switching the two numbers around makes no difference (i.e., relatively little restriction in admissible transformations); in ordinal scale, the ranking of a 2 is higher than that of a 1—the numbers cannot be switched around, but the difference between the two rankings can be big or small, leaving much latitude for variation (admissible transformations) across contexts. With

increasing precision of the interval and ratio scales, there is corresponding increase in the restriction of admissible transformations—the boundary/difference between categories is not only fixed/standardized, but can also be precise to the decimal point.

Symmetry restoration and creativity. A good example of the spontaneous symmetry breakdown in cognition is conventional thinking, which may be considered as a form of frozen asymmetry. The rigid boundaries between conventional categories (male versus female; us versus them; young versus old, and so on) may be compared to the rigidity of ice as the result of a long chain of symmetry breakdown in nature (Bolender 2010). Conversely, symmetry restoration in cognition, akin to the messy process of ice melting into water, has the potential to undermine conventional order and structure (for its implication for psychology as interpreted from the Langerian perspective, see Fatemi 2014). Consider a crossword puzzle. The correct answer, based on conventional thinking, requires severe restrictions in admissible transformations, since it consists of:

> . . . a unique sequence of letters, so there is only one possibility and no variety at all. The variety, the number of possibilities. . . . increases a great deal when *all constraints are dropped* and nonsense words are permitted, at which stage there are two dozen possible sequences, all different (Campbell 1982, p. 46, emphasis added).

In this scenario, symmetry restoration would consist of a progression from conventional sequence of letters to nonsense words.

Langer's Mindfulness Training

According to Langer, (1989, p. 4) conventional object categories are the result of mindless or automatic categorization. In her own words: "as we blindly follow routines or unwittingly carry out senseless orders, we are acting like automatons, with potentially grave consequences for ourselves and others" (see also Langer and Imber 1979). To mimic automatic categorization, Langer runs a module of mindlessness, which can be translated into the following algorithm:

Either A or B;
A≠B. Where A and B stand for different object categories or opposite evaluations.

This algorithm is applied to a series of exercises (Langer 1989, 2005). To reinforce rigidity in thinking (A or B, but not both), participants are asked to give six explanations/evaluations for the target person's actions in a given scenario—all six explanations/evaluations should be *either* good *or* bad; *either* positive *or* negative. To reinforce rigid boundaries between object categories, participants are asked to give three common characteristics or common usages of an everyday

object. Finally, to reinforce difference or asymmetry (A≠B), participants are asked to come up with three ways in which the two objects are *dissimilar* to each other.

Countering the above agenda point by point is the mindfulness algorithm:

Both A and B;
A=B. Where A and B stand for different object categories or opposite evaluations.

This algorithm forms the basis of Langer's mindfulness training. To undermine the rigid boundaries between object categories, training modules are designed to reinforce the blurriness and permeability of boundaries across conventional object categories (Langer 1997, 2000). For instance, participants are asked to give six explanations/evaluations for the target person's actions in a given scenario—three explanations/evaluations are *good/positive* and three *bad/negative*. To undermine rigid boundaries between conventional object categories, participants are asked to give three *novel* characteristics or usages of an everyday object. Finally, to reinforce similarity (A=B), participants are asked to come up with three ways in which the two objects are *similar* to each other. Outside the lab, naturally formed cognitive styles that operate this way constitute trait mindfulness, which is defined by Langer (1989, 1997, 2000, 2005) as a tendency to blur the boundaries between object categories.

Toward a cognitive definition of mindfulness. Based on the foregoing analysis, we put forward a formal definition of mindfulness. Mindfulness may be defined as *strategies of metacognition that facilitate the process of symmetry restoration in cognition*. This definition is based on two assumptions

- Mindfulness is not cognition so much as metacognition (Hart et al. 2013), which refers to the strategic use of cognitive resources such as attention.
- Due to its symmetry restoration properties, mindfulness has an intrinsic connection to creativity.

Equipped with this formal definition of mindfulness, we now venture beyond the familiar terrain of mindfulness research. There is a wide spread assumption in psychology that Asians are not as creative, or at least not as revolutionarily creative, as their West counterpart (Sundararajan and Raina 2015). This assumption is reflected in the observation of Crum and Lyddy (2014) that "Eastern mindfulness shines a clear light of unbiased and unattached awareness on *existing mindsets* whereas Langerian mindfulness involves a continual process of *restructuring and creating mindsets anew*" (p. 954, emphasis added). To counter this conventional wisdom in the field, we present below relational mindfulness practices in Chinese aesthetics that seem to be even more radical or revolutionary in dismantling habitual mindsets than their Western counterpart.

Relational Mindfulness

Relational mindfulness consists of two components—practice of meditation and its cognitive underpinnings. The importance given to meditation in Chinese aesthetics may be illustrated by a Taoist story from the *Chuang-tzu*, in which the woodcarver Khing, famous for his bell-stand, attributed his art to the elaborate preparations he went through, known as fasting of the mind (see Hsu 1966):

> After fasting for three days, I did not presume to think of any congratulation, reward, rank, or emolument . . . . After fasting five days, I did not presume to think of the condemnation or commendation (which it would produce), or of the skill or want of skill (which it might display). At the end of the seven days, I had forgotten all about myself; –my four limbs and my whole person . . . . Then I went into the forest, and looked at the natural forms of the trees. When I saw one of a perfect form, then the figure of the bell-stand rose up to my view, and I applied my hand to the work. (Legge 1959, p. 462)

While Langer's program shares with fasting of the mind the aspiration to transcend conventional value judgments, it falls short of the latter's rigorous endeavors to transcend the ego. In Chinese aesthetics, it is only when the mind becomes selfless that creativity becomes possible. Thus to the selfless mind of the woodcarver, a perfect form emerges. Note here the artist does not "create" so much as "discover" a perfect form in nature (see Sundararajan and Raina 2015). It is upon this relation of ontological parity between humans and nature that creativity is predicated, according to Chinese aesthetics. A further development of the symmetrical relationship between the artist and nature is found in the following statements of the landscape painter Tsung Ping (373–443): "Spirits are in essence eternal and they dwell (temporarily) in forms and respond sympathetically [*gan*] to the [similar] kinds (*lei*) [in the painter]" (cited in Munakata 1983, p. 123). The perfect form in nature that reveals itself to the selfless mind of the artist has now become the site of a mind or spirit that can respond to and be in communion with its equal—the selfless mind of the painter. But what are *gan* and *lei*?

Symmetry restoration in Chinese aesthetics. "Europeans emphasized man's enjoyment of nature, sometimes not above the picnic or excursion level; the Chinese revealed the possibility of a more profound relation between man and nature," writes Rowley (1974, p. 21), an expert on Chinese painting. This profound relationship between humans and nature is governed by the notion of *gan-lei* which means "responding according to categorical correlations" (Goldberg 1998, p. 35). In this compound, *gan* (responding) is contingent on *lei* which refers to the principle of ontological parity that lies at the core of sympathetic magic (like attracts like), otherwise known as animism (Sundararajan 2009). In sharp contrast to the Kantian dictum that "We are subjects thinking about objects" (Freeman 2000, p. 117), the principle of *lei* (parity) renders possible a symmetrical mind-to-mind, rather than the asymmetrical mind-to-object, transaction (Sundararajan 2015) with all kinds of objects. Thus, the Tang poet Li Po (701–762) wrote:

Never tired of looking at each other —
Only the Ching-t'ing Mountain and me. (Liu and Lo 1975, p. 110)

With his mutual gazing with the mountain, the poet has blurred a fundamental distinction between two object categories—animate and inanimate—a distinction that even infants make (Mandler 2004): As Meltzoff and Moore (1999) point out that for an infant to learn about inanimate objects she must manipulate or mouth them, but to learn about people she must imitate them.

Animism attests to the human will to experience mind whether it is there or not (Noë 2009, p. 28). According to Bloom (2007), the human tendency to attribute agency and intention based on minimal cues is attributable to a "hypertrophy of social cognition" (p. 149). Indeed, empirical evidence is accumulating that the threshold for the perception of animacy and mind—the two go together as the mind is a correlate of animacy (Looser and Wheatley 2010)—is decreased by the desire for connection (Powers et al. 2014). The mind's capacity to see its double wherever it looks is, therefore, a particular penchant of relational cognition, although it may not be favorably perceived from the perspective of Western rationality. This explains why animism and related phenomena are referred to by most psychologists as a form of anthropomorphism which denotes a lapse in logical thinking. However, Waytz et al. (2010) are quick to point out that anthropomorphism has an ethical dimension. According to the authors, anthropomorphism entails blurring the distinction in only one particular direction—treating everything as another mind—so as to avoid blurring the distinction in another, less favorable, direction, namely treating everything as object.

Beyond the ethical dimension, animism-based thinking also reaps other benefits when the mind switches its gear from asymmetrical to symmetrical transactions with the world. This point can be illustrated by mapping our daily transaction with the world onto a hypothetical anthropomorphism scale anchored between 0 and 10, with 0 indicating inanimate object, corresponding to the asymmetrical I-it mode of transaction; and 10 indicating someone like me, corresponding to the I-Thou mode of transaction. My transaction with a friend could span the spectrum from 9 to 5. Some people's transaction with their pet rock could score 8 on the anthropomorphism scale, while their transaction with their neighbors might be a 3. On the battlefield, soldiers could be trained to operate near 0 in their approach to the enemies. What happens when self-to-self transaction hovers around 0 on the anthropomorphism scale? The self would be relating to itself as an object, with possibly dire consequences. Muehlenkamp et al. (2013) found self-objectification to be a contributing factor for both eating disorder and nonsuicidal self-injury. The researchers also suggested an antidote—mindfulness that enhances attunement, or in our framework a more symmetrical relationship, with one's own body.

In sum, we have reviewed two different paths to symmetry restoration. The cognitive mindfulness paradigm of Langer restores symmetry by blurring the conventional boundaries between object categories. Relational mindfulness in Chinese aesthetics restores symmetry by blurring the ontological and epistemological dichotomies of the common sense world so as to engage in symmetrical

mind-to-mind transactions with nature. Is it possible to replicate this ancient Chinese form of relational mindfulness in the lab, and across cultures?

An Empirical Study of Relational Mindfulness

Two studies—Study 1 by R. Behrad (n = 33), and Study 2 by F. Hamidi (n = 72)—were conducted in Iran. The Iranian participants were university students and staff from two different cities, Isfahan and Tehran, respectively. All the testing materials were translated into Persian (Farsi) under the supervision of the second author who is a native of Iran. Participants in both studies were randomly divided into two groups

- Group A: Relational mindfulness with high symmetry;
- Group B: Relational mindfulness with low symmetry.

To induce relational mindfulness, we showed nature slides to both groups for a duration of 30–45 min.

Stimuli. A total of 59 slides of mountain scenes were selected from http://www.mountainsongs.net/index.php. We used mountain scenes as stimuli to test the hypothesis that the capacity of the human mind to see its double beyond the social arena can be primed. The Chinese notion of *gan-lei* (responding in kind, see Sundararajan 2009, 2015) is consistent with what is known in psychology as empathic responding which is best exemplified by the meeting of the minds in aesthetics between the author and the reader. According to Crozier and Greenhalgh (1992), more than aesthetics, natural environments seem especially suitable for empathic responding. The authors argue that whereas our reactions to art are typically constrained or guided by the intentions of the artist, we are freer to choose the object of our appreciation in nature. Extending this insight of Crozier and Greenhalgh (1992), which the Chinese artists have found to be true throughout history, we hypothesized that nature scenes could serve as affordances for the empathic (i.e., symmetrical) mind-to-mind transaction. This constitutes the basis for the mindset induction for group A, see below. We also hypothesized that symmetrical transactions with nature can be dampened if the subject versus object asymmetrical relationship with nature is induced through a thought experiment in real estate investment—this constitutes the mindset induction for group B, below.

Mindset induction of group A.
The English poet Wordsworth wrote "For there is a spirit in the woods."
Similarly, the Chinese poet Li Po wrote about his mutual gazing with a mountain:

Never tired of looking at each other—
Only the Ching-t'ing Mountain and me.

Now try to enter into the frame of mind of these poets, when you view these slides: Your task is to ***feel*** *as much as possible* ***the presence*** *of the spirit, or mind—however you call it—of the mountains.*

Mindset induction of group B.

Take up the role of a real estate entrepreneur, when you view these slides: Your task is to ***generate ideas*** *as to how to make* ***good investment*** *on this piece of property—how to develop this area into a first class tourist resort, for instance.*

Outcome Measures

Langer Mindfulness Scale **(*LMS*)**. This scale includes four subscales: novelty seeking, engagement, novelty producing, and flexibility (Langer 2004). The questionnaires focus on elements of creativity and awareness of the external environment. Since LMS captures the core attributes of mindfulness as "curiosity, openness, and acceptance" toward one's ongoing present experience (Bishop et al. 2004, p. 232), our prediction is that there is no significant difference between the two groups, A and B, on this measure.

Emotional Creativity Inventory **(*ECI*)**. This is an assessment of the ability of people to be emotionally adaptive and innovative when in potentially challenging situations (Averill 1999). Examples of the ECI items

> I try to be honest about my emotional reactions, even when it causes me problems.
> I have emotional experiences that would be considered unusual or out of the ordinary.

Our prediction is that the higher symmetry Group A will score higher on ECI than the lower symmetry group B.

Solitude scale. The 20 items of the ***Solitude Scale*** (Wang 2006) is an expansion of the original 9 item list of solitude experiences in Long et al. (2003). The 20-item solitude scale has been normed on both US and Chinese samples (Wang 2006). Using the 20 types of solitude experiences to assess the impact of mindfulness inductions, our instruction for both A and B groups read as follows:

> If one day you should find yourself alone in a place similar to the mountain you just viewed, how would you experience your solitude there? Please rate the likelihood of your having the types of solitude experience listed below.

Throughout history and across cultures, solitude has an intimate connection with creativity (Averill and Sundararajan 2014). The use of mountain scenes as stimuli is appropriate here. A study by Wang (2006) found that for both Chinese and American participants, the ideal setting for solitude was the natural environment, for example, beaches, mountains, woods, or lakes. Our prediction is that on this measure of solitude experiences, the higher symmetry group A will score significantly higher than the lower symmetry group B on the relational components of solitude.

Results

We skip details of statistics here, which can be found in Sundararajan and Fatemi (2015).

Manipulation check. In both studies, A and B groups produced qualitatively different sets of answers, suggesting that the induction of relational mindfulness with high versus low symmetry, respectively, to be successful.

- Group A (high symmetry—Feeling the presence of the mountains)—A sample of experiences from those who indicated that they experienced "to the fullest" the presence of the mountains:
  Study 1 (N = 16): "It was like reading a Novel or watching a dramatic movie. When I was watching the slides, I felt I'm flying and I'm not on the earth. I had a peak experience. I was so relax and calm and I imagined that all of the mountains, nature and me are the same. I talked with the mountains and branches of trees."
  Study 2 (N = 33): "It was like that I visit my family that are alive and they can understand me and my characteristics."
- Group B (low symmetry—role-playing the real estate entrepreneur)—A sample of experiences from those who indicated that they role played "to the fullest" a real estate entrepreneur:
  Study 1 (N = 15): "It was like being a designer!"
  Study 2 (N = 35): Terms used frequently: "park, recreational place and tourism, discovery of minerals and potentially elements, photography, and traveling."

Langer Mindfulness Scale (***LMS***). As predicted, both studies showed that results of A and B groups did not differ significantly.

Emotional creativity as measured by ECI. Contrary to our prediction, in both studies results of A and B groups did not differ significantly. Possibly emotional creativity is not sensitive to the difference between high symmetry (group A) and low symmetry (group B) in relational mindfulness.

Solitude Scale. In study 1 (N = 33), results of A and B groups did not differ significantly. In study 2 (N = 72), group A scored significantly higher than group B on two components of solitude experience: FREEDOM and INTIMACY.

Discussion

To gauge the implications of the results shored up by the Solitude Scale (Wang 2006), we need to take a closer look at the theoretical constructs behind this outcome measure. Theoretically, the cognitive structure of solitude experience consists of components that can be organized along the divide between self-focus and other-focus, each with positive and negative subtypes

- Self-focus (How solitude has positive or negative impact on the self):

Positive: Enlightenment (Creativity, self-discovery, self-enrichment);
Negative: Loneliness (Unwanted separation).

- Other-focus (How solitude enhances positive and reduces negative social impact):
  Enhancing positive connection with others: Communion (intimacy, community, spirituality);
  Reducing negative impact from others: Freedom (associated benefits of freedom from interference of others).

Empirically, factor analysis in previous studies (Long et al. 2003; Wang 2006) yielded several factors of the solitude experience, which were labeled ENLIGHTENMENT (Factor 1), LONELINESS (Factor 2), FREEDOM (Factor 3), RELAXATION (Factor 4), and INTIMACY (Factor 5).

In the present study, across both samples, A and B groups did not differ in nonsocial (self-focus) dimensions. But in the social (other-focus) dimension, study 2 ($N = 72$), but not study 1 ($N = 33$), showed that A group scored relatively higher than B group on FREEDOM and INTIMACY. What do the solitude profiles on FREEDOM and INTIMACY entail?

On the INTIMACY factor, the following items had high loading: Reminiscence and Intimacy.

- *Reminiscence*: While alone, you think about times past, for example, you recall events you have experienced or people you have known.
- *Intimacy*: Although alone, you feel especially close to someone you care about, for example, an absent friend or lover, or perhaps a deceased relative (such as a beloved grandparent); thinking about the absent person only strengthens your feeling of closeness.

On the FREEDOM factor, the following items had high loading: Freedom, Daydreaming, Inner Peace, and Harmony.

- *Freedom*: While alone, you feel free to do as you wish, without concern for social rules or what others might think; you feel no need to please or impress anyone, but can be completely yourself.
- *Daydreaming*: While alone, you engage in fantasies; you enter an imaginary world where you could be anyone, and do anything your heart desires.
- *Inner peace*: While alone, you feel calm and relaxed, free from the pressures of everyday life.
- *Harmony*: While alone, you feel a sense of unity with your surroundings, as though you are a part of your environment; everything seems interconnected with everything else; for the time, at least, you are in balance with the world.

Taken together, the components of FREEDOM and INTIMACY seem to lie at the core of what Averill and Sundararajan (2014; see also Winnicott 1958) refer to as authentic solitude, which is characterized by the ability to forsake existing society (a tendency tapped into by the Freedom factor) for an ideal (virtual) community (a tendency tapped into by the Intimacy factor). This type of creativity

that comes with the benefits of mental wellbeing (as indicated by items of Inner Peace and Harmony) seems to be intimately connected with relational cognition. Furthermore, these benefits seem to be reaped in direct proportion to the degree of symmetry in the relational transaction with the world, as evidenced by the high symmetry A group scoring significantly higher than the low symmetry B group on these measures in study 2 ($N = 72$). In study 1 ($N = 33$), the difference between A and B on FREEDOM and INTIMACY, respectively, was also in the same direction but not significant, probably due to small sample size.

If replicated, results of this study suggest the following possibilities: First, the capacity of the human mind to see its double beyond the social arena can be experimentally primed. Second, relational mindfulness has unique mental health benefits of its own, such as a sense of well-being associated with affiliative fantasies. Needless to say, this preliminary study has many limitations. Replication studies—with better design and a special focus on the differential consequences of parity/symmetry or the lack thereof in the mind's transaction with the world—are currently being conducted in Cambodia and Italy, respectively.

References

Averill, J. R. (1999). Individual differences in emotional creativity: Structure and correlates. *Journal of Personality, 67*, 331–371.

Averill, J. R., & Sundararajan, L. (2014). Experiences of solitude: Issues of assessment, theory, and culture. In R. J. Coplan & J. C. Bowker (Eds.), *The handbook of solitude: Psychological perspectives on social isolation, social withdrawal, and being alone* (pp. 90–110). Hoboken, NJ: Wiley.

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., & Carmody, J. et al. (2004). Mindfulness: A proposed operational definition. *Clinical psychology: Science and Practice, 11*, 230–241

Bloom, P. (2007). Religion is natural. *Developmental Science, 10*, 147–151.

Bolender, J. (2010). *The self-organizing social mind*. Cambridge, MA: The MIT Press.

Campbell, J. (1982). *Grammatical man*. New York: Simon & Schuster.

Crozier, W. R., & Greenhalgh, P. (1992). The empathy principle: Towards a model for the psychology of art. *Journal for the theory of Social Behavior, 22*, 63–79.

Crum, A., & Lyddy, C. (2014). De-stressing stress: The power of mindsets and the art of stressing mindfully. In A. Ie, C. T. Ngnoumen, & E. J. Langer (Eds.), *The Wiley Blackwell handbook of mindfulness* (pp. 948–963). Hoboken, NJ: Wiley.

Farb, N. A. S., Anderson, A. K., Mayberg, H., Bean, J., McKeon, D., & Segal, Z. V. (2010). Minding one's emotions: Mindfulness training alters the neural expression of sadness. *Emotion, 10*, 25–33.

Fatemi, S. M. (2014). Exemplifying a shift of paradigm: Exploring the psychology of possibility and embracing the instability of knowing. In A. Ie, C. T. Ngnoumen, & E. J. Langer (Eds.), *The Wiley Blackwell handbook of mindfulness* (pp. 115–138). Hoboken, NJ: Wiley.

Freeman, W. J. (2000). *How brains make up their minds*. New York: Columbia University Press.

Goldberg, S. J. (1998). Figures of identity/Topoi and the gendered subject in Chinese art. In R. T. Ames, T. P. Kasulis, & W. Dissanayake (Eds.), *Self as image in Asian theory and practice* (pp. 33–58). Albany, NY: SUNY Press.

Hart, R., Ivtzan, I., & Hart, D. (2013). Mind the gap in mindfulness research: A comparative account of the leading schools of thought. *Review of General Psychology, 17*, 453–466.

Horan, R. (2009). The neuropsychological connection between creativity and meditation. *Creativity Research Journal, 2*, 199–222.
Hsu, F. K. (1966). *The spirit of Chinese art (in Chinese)*. Taipei: Xue Sheng.
Langer, E. J. (1989). *Mindfulness*. Reading, MA: Addison-Wesley.
Langer, E. J. (1997). *The power of mindful learning*. Cambridge: De Capo Press.
Langer, E. J. (2000). Mindful learning. *Current Directions in Psychological Science, 9*, 220–223.
Langer, E. J. (2004). *Langer mindfulness scale user guide and technical manual*. Worthington, OH: IDS Publishing.
Langer, E. J. (2005). *On becoming an artist: Reinventing yourself through mindful creativity*. New York, NY: Ballantine Books.
Langer, E. J. (2009). *Counterclockwise: Mindful health and the power of possibility*. New York, NY: Ballantine Books.
Langer, E. J., & Imber, L. (1979). When practice makes imperfect: The debilitating effects of overlearning. *Journal of Personality and Social Psychology, 37*, 2014–2025.
Legge, J. (1959). The writings of Chuang-Tzu. In J. Legge, Trans., *The texts of Taoism* (pp. 175–672). New York: The Julian Press.
Liu, W. C., & Lo, I. Y. (Eds.). (1975). *Sunflower splendor/three thousand years of Chinese poetry*. Garden City, NY: Anchor.
Long, C. R., Seburn, M., Averill, J. R., & More, T. A. (2003). Solitude experiences: Varieties, settings, and individual differences. *Personality and Social Psychology Bulletin, 29*, 578–583.
Looser, C. E., & Wheatley, T. (2010). The tipping point of animacy: How, when, and where we perceive life in a face. *Psychological Science, 21*, 1854–1862.
Mandler, J. M. (2004). *The foundations of mind: Origins of conceptual thought*. New York, NY: Oxford University Press.
Meltzoff, A. N., & Moore, M. K. (1999). Persons and representations: Why infant imitation is important for theories of human development. In J. Nadel & G. Butterworth (Eds.), *Imitation in infancy* (pp. 9–35). Cambridge: Cambridge University Press.
Muehlenkamp, J. J., Bagge, C. L., Tull, M. T., & Gratz, K. L. (2013). Body regard as a moderator of the relation between emotion dysregulation and nonsuicidal self-injury. *Suicide and Life-Threatening Behavior, 43*, 479–493. doi:10.1111/sltb.12032.
Munakata, K. (1983). Concepts of lei and kan-lei in early Chinese art theory. In S. Bush & C. Murck (Eds.), *Theories of the arts in China* (pp. 105–131). Princeton, NJ: Princeton University Press.
Noë, A. (2009). *Out of our heads*. New York: Hill and Wang.
Powers, K. E., Worsham, A. L., Freeman, J. B., Wheatley, T., & Heatherton, T. F. (2014). Social connection modulates perceptions of animacy. *Psychological Science, 25*, 1943–1948.
Rowley, G. (1974). *Principles of Chinese painting*. Princeton, NJ: Princeton University Press.
Siegel, D. J. (2007). *The mindful brain*. New York: W. W. Norton
Sundararajan, L. (2009). The painted dragon in emotion theories: Can the Chinese notion of *ganlei* add a tranformative detail? *Journal of Theoretical and Philosophical Psychology, 29*, 114–121.
Sundararajan, L. (2015). *Understanding emotion in Chinese culture: Thinking through psychology*. New York, NY: Springer SBM.
Sundararajan, L. & Fatemi, S. M. (2015). Creativity and symmetry restoration: Toward a cognitive account of mindfulness. Journal of Theoretical and Philosophical Psychology. Publish online: http://dx.doi.org/10.1037/teo0000027
Sundararajan, L., & Raina, M. K. (2015). Revolutionary creativity, east and west: A critique from indigenous psychology. *Journal of Theoretical and Philosophical Psychology, 35*, 3–19.
Wang, Y. (2006). Culture and solitude: Meaning and significance of being alone. Unpublished Masters Thesis, University of Massachusetts, Amherst.
Waytz, A., Epley, N., & Cacioppo, J. T. (2010). Social cognition unbound: Insights into anthropomorphism and dehumanization. *Current Directions in Psychological Science, 19*, 58–62.
Winnicott, D. (1958). The capacity to be alone. *International Journal of Psychoanalysis, 39*, 416–420.

Author Biographies

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Langerian Mindfulness and Optimal Sport Performance

Amy L. Baltzell and John M. McCarthy

Langerian mindfulness is an area of research and application that will greatly benefit the still maturing field of sport psychology, particularly with the goal of augmenting moment-to-moment competitive sport performance. This chapter will provide an understanding of how applying a Langerian mindfulness approach to sport psychology consulting offers transformative ideas that can greatly augment the typical, cognitive behavioral approach to helping athletes optimize performance. Many traditional sport psychology interventions focus athletes' attention primarily on their *past* experiences to tailor preparation for *future* sport performances. Unfortunately, this heavy focus on the *past* experience actually can serve to strengthen a mindless sport approach. Ellen Langer explains the mindlessness approach, "We act like automatons who have been programmed to act according to the sense our behavior made in the past, rather than the present" (Langer 2000, p. 220). Such preprogrammed mental states disallow nimble, subtle adjustments to present moment experience, which are requisite for optimal sport performance (Baltzell & Cote 2016). Sport psychology practitioners encourage athletes to enact preprogrammed thoughts, images and actions that may disallow full engagement in their lived sport experience.

The problem with many traditional sport psychology approaches that focus on past performance then, lies in the undeniable fact that each performance is unique. As athletes prepare for performance in the present, *now,* they never precisely are as they were in past. Nothing is static. Each athlete's individual skills, physical capacity, knowledge, mind-state and external environmental conditions as well as their competitors are ever changing. What is needed in "the now" of performance may be subtly or even significantly different than what was needed in the past to achieve success.

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Langerian mindfulness can provide a direct pathway to enhancing sport performance by prompting athletes to notice novelty within performance relevant cues (e.g., a basketball player slight difference in how high the ball is bouncing when racing down the court) and to minimize unhelpful expectations based on past experience (e.g., "I am going to lose because she always beats me"). Integrating Langerian mindfulness into sport psychology interventions will ultimately help create more opportunities to experience flow (fully engaged, intrinsically motivated experiences in sport), augment concentration, and help athletes leverage their best moment-to-moment sport performance. This chapter offers a theoretical discussion and specific examples of how Langerian mindfulness can be beneficially integrated into sport psychology practice via a case example of Langerian mindfulness in action and an intervention designed for athletes that integrates Langerian mindfulness, Mindfulness Meditation Training for Sport (MMTS; Baltzell and LoVerme-Ahktar 2014; Baltzell et al. 2014).

Langerian Mindfulness, Musicians and Implications for Sport Psychology

Langer et al. (2009) designed a insightful study that offers a way to operationalize Langerian mindfulness within a performance realm. Specifically, Ellen Langer's conceptualization of mindfulness emphasizes the value for orchestra musicians in noticing novelty in the way they approach playing their music. It may be that noticing novelty may also offer great promise that has been little used in sport psychology interventions. Langer and Moldoveanu (2000) define mindfulness as:

> The process of drawing novel distinctions. It does not matter whether what is noticed is important or trivial, as long as it is new to the viewer. Actively drawing these distinctions keeps us situated in the present. It also makes us more aware of the context and perspective of our actions than if we rely upon distinctions and categories drawn in the past. (pp. 1–2).

However, for their orchestra studies, Langer et al. (2009) prompted a more specific focus than on simply noticing random stimuli. Instead, they invited the musicians to make subtle changes in their music, changes that only the musicians would notice.

In Langer et al. (2009) first study, they selected 60 expert orchestra members, musicians who were highly skilled had performed the score of music used for the study hundreds of times. The researchers prompted the musicians to notice novelty in a particular score of music. The musicians were prompted by the researchers to play in the "finest manner you can, offering subtle new nuances to your performance" (p. 127). What is of particular importance in the design of this study was that the orchestra players were prompted to draw of novel distinctions within a *boundaried*, *task-specific focus* related to creating excellent music. There was a shift in awareness from open interest in all that they could possibly notice to, instead, noticing novelty concurrently while playing to the best of their ability.

In contrast, the researchers asked the musicians in the control group portion of the study to "think about the finest performance of this piece that you can remember, and try to play it" (p. 127). The way that the control group in this study was asked to think about performance, the control group's task is quite consistent with what many well-trained sport psychologists offer athletes. Sport psychology practitioners have been prompting athletes to strive toward recreating past experience for decades often asking athletes to retrospectively consider and recreate past best experience. In particular, practitioners are taught to have their athletes reflect back on exemplary and poor sport experiences, find patterns in both and encourage athletes to replicate thoughts and feelings that occurred before and during best past performances. The following is drawn from a top sport psychology text book (Williams et al. 2010) and is addressing retrospection:

> Reflecting back on situations in which they performed particularly well or particularly poorly and trying to recreate the thoughts and feelings that occurred prior to and during performance, many athletes are able to identify typical thoughts and common themes associated with good and bad performance. (p. 285)

Armed with this information, sport psychology practitioners utilize past performances in an effort to offer athletes strategies in which they avoid, sometimes suppress, thoughts and feelings associated with poor performances and replicate the thoughts that lead to good performances. In the extreme, this core approach within sport psychology aligns with Langer's (2000) description of a mindless state: When in a mindless state,

> We act like automatons who have been programmed to act according to the sense our behavior made in the past, rather than the present. Instead of actively drawing new distinctions, noticing new things, as we do when we are mindful, when we are mindless we rely on distinctions drawn in the past. We are stuck in a single, rigid perspective, and we are oblivious to alternative ways of knowing. When we are mindless, our behavior is rule and routine governed; when we are mindful, rules and routines may guide our behavior. (p. 220).

From a traditional sport psychology perspective, the control portion of the orchestra study would be expected to perform better. Conversely, the Langerian mindfulness intervention focusing on subtle nuances in performance, compared to recreating a past best performance, was preferred by the orchestral musicians and the audience. In addition, the musicians reported more enjoyment performing while intentionally focusing on novel distinctions. In the follow-up, study 2 while controlling for practice effects and the order in which the pieces were presented to the audience similar results emerged: the orchestra musicians and the audience preferred the mindfulness piece.

This study offers key insights about the internal dispositions of high-level performers and posits a substantial shift into how sport psychology practitioners can help well-seasoned, expert athletes optimize sport performance. Through the focus on novelty within sport specific task relevant cues, athletes may find a freshness and creativity when competing, which I expect would lead to improving the quality of the athlete's internal experience and manifesting enhanced performance. Being well

prepared for performance is, of course, important. However, focusing only on what is well-learned may at times encourage mindless performance. Langer et al. (2009) study addresses how to create performances that are different and as a result, potentially even better than best past performances.

The Target: Flow

The essential focus of sport psychology interventions is to help athletes and other performers optimize sport achievement. The ratification of optimizing performance, whether one wins or losses, is often reflected by the elusive experience of flow in sport (Jackson and Czikszentmihalyi 1999). Czikszentmihalyi (1975) coined the term flow in his seminal book, *Beyond Boredom and Anxiety*. Czikszentmihalyi developed a model of enjoyment entitled the *flow model* after interviewing a wide range of individuals who seemed to be highly engaged in activities for reasons of enjoyment including rock-climbers, athletes and artists. Czikszentmihalyi (1999) defines flow as "a particular kind of experience that is so engrossing and enjoyable that it becomes autotelic, that is, worth doing for its own sake even though it may have no consequence outside itself" (p. 824). This state of complete absorption requires the full attention of the individual to the task at hand; in essence, the individual must be stretched to their full attentional capacity. The signet of flow is full engagement with present moment experience. Such full attention and presence are requisite for athletes to play as well as they can. Thus, flow is generally perceived as a sought-after though elusive state in sport. Leading thinkers in sport psychology (e.g., Jackson and Czikszentmihalyi 1999) have highlighted the important experience of flow yet there have been few studies or sport interventions that indicate how to practically cultivate the conditions that lead to such an experiences.

Jackson (2016), the first researcher in the concept of flow within the sport psychology community, identifies nine dimensions of flow including: (1) challenge-skill, (2) action–awareness merging, (3) clear goals, or clarity of purpose, (4) unambiguous feedback, (5) concentration of the task at hand, (6) sense of control over what one is doing, (7) loss of self-consciousness, (8) time transformation, and (9) autotelic experience. Jackson (2012) provides a list of precursors (e.g., *being well prepared for the challenge* and *having high levels of motivation*) and factors that represent the flow experience (e.g., *staying focused on the task* and *managing distractions*) (Flow and Performance section, para. 4). Though this research on flow is rich and a great contribution to understanding the state of being fully engaged, there lacks guidance for the athlete of what they can do to prompt the flow experience beyond drawing on and replicating past experience.

One important clue from the flow model about how to intentionally create such a fully engaged experience, is that engaging in a flow state requires the actor, in this case the athlete, to *stretch* his capacity. It is not enough to be skilled. The athlete

must stretch their skill to full capacity to be in a flow state, to be fully engaged. Ellen Langer's conception of mindfulness is perhaps an important missing link. Langer and colleagues in the orchestra study shed light on novel approaches to high both enjoyment and improved performance. They captured the attention of the orchestra musicians, with their well-learned task, to stretch their capacity by asking them to play in subtle ways no one would notice and, concurrently, play exquisitely.

Langerian mindfulness may be just a vital link to better understanding how to help prompt fully engaged, optimal performance for expert athletes. The athlete absorbed in a well-learned task must be willing to engage with the environment and interested in making very small adjustments as their moment-to-moment experience unfolds. If this current experience is viewed as possibly different and unexpected, it better allows the athlete to be more open to nuances perhaps requisite for moment-to-moment optimal experience and performance. So instead of performing in habitual ways and missing opportunities for improving performance the athlete embraces and is looking carefully for novelty and nuance. Gregerio DiLeo, world class kick boxer, has found that when his mind is settled and he commits to moment-to-moment adjusting, making subtle changes, whenever necessary that he finds his performance shifts for the better as a result of the this novelty-centered awareness state (Baltzell & Cote 2016). Such a Langerian mindfulness approach to sport is also consistent with principles of *qi*, the Chinese term used for life force, which necessitates letting go of the moment-to-moment unfolding of experience.

Performers who remain open to novel distinctions during practice and performance remain situated in the present moment, which reflects the contextual awareness and heightened understanding of our actions within the moment that Ellen Langer points to in her definition of mindfulness. Ying and Chiat (2013) introduced tai chi principles of flow, *qi*, to piano students. The students were encouraged to become the action (versus to try to create the music). The *qi* flow training intervention consisted of focused breathing work aligned with muscular contraction (exhaling) and release (inhaling) and the use of imagery, specifically imagining energy flowing in from their forehead and out through their fingertips. The pianists in this study experienced increased flow. This intervention emphasized "letting go" via awareness and openness versus "prioritizing control" (p. 100). Langerian mindfulness also encourages the performer to remain aware and open to novelty within the performance realm.

Essentially, a Langerian mindfulness approach may provide within the sport psychology field new and different ways to help well-trained athletes perform their best in practice and competition. Given each practice and each performance is unique, athletes are never exactly *now* as they *were* and, of course, the environment, conditions, expectations, and competitors are never exactly as they *were*. Subsequently, the big challenge for the field is developing Langerian mindfulness interventions.

Case Example

Langerian mindfulness in action is exemplified by Jessyca, a world class track athlete. She shared a strategy with me that I have never witnessed or yet recommended as a veteran sport psychologist. She described a strategy she stumbled upon, that she noted "just worked," and continues to use in preparation for national and international competitions. Her simple but ingenious strategy is a perfect example of Langerian mindfulness implemented to leverage optimal performance. Jessyca describes her organically created, self-prompted intervention she implemented when at an international event:

> I first took a few steps back and then stepped forward onto the line, where we start. I intentionally focused in on some random object and not think about anything else for a few moments. I did this in an effort to become 100% ready. The first time I tried this, I stared at random electrical box. I told myself to be aware of what it looked like. After this thought, I began to notice colors in ways I had not noticed before. I noticed the shape, thickness and vibrant colors of the many wires in the box. I knew that the box wasn't going to move (which seemed comforting to the athlete as the box was a stable point of focus). Doing this (noticing the colors and shapes of the wires in the box) helped me *not think* about anything else for a few seconds. The first time I tried this, I also was taking a deep breath to prepare to go.

Jessyca went on to win every event that day. Her performance was unprecedented. We had worked on a number of challenges—I had offered her ways to adaptively cope with the predicable pressure of high-level competition, specific ways to put herself at ease with the uninvited thoughts and emotions to help her cultivate courage in the face these fears and we had also created scripts—planned ways of thinking, focusing, and even emotionally feeling to optimize sport performance.

However, I had not given her strategies to bring a quiet mind and full, fresh awareness to the competitive environment as she competed. Jessyca created that last, essential missing piece herself. And what she was doing—as I see it—was Langerian mindfulness in action. She was able to fully focus on a non-threatening object and become aware of novelty, colors, and shapes she had never noticed. She gave her full attention over to novel, random stimuli. And then, with this full, open presence and quiet thinking mind (she was intentionally not creating thought), she was able to turn her attention to the her event—and bring the same fully present, curious, open, fresh presence to her fencing. This Langerian mindful presence allowed Jessyca to compete better than she had previously as she moved up 50 spots in the national ranking within a month of integrating this approach.

What was quite interesting was that Jessyca had no idea why this approach of priming her attention toward novelty was helpful. In fact, when we first reviewed this match where she had started integrating Langerian mindfulness into her strategic approach, she almost did not mention this new tactic in her weekly hour session with me. Though she felt the overall benefit of our work together was dramatic, she had no language or conceptualization of why becoming aware of a random object in her visual field before performing could have any benefit. In fact,

despite her repeated use of this Langerian mindfulness strategy throughout competition day, the idea was almost lost. She had nearly forgotten what she had done, as if it was not important. I am guessing that she wondered how *zoning out* and becoming fascinated with random stimuli would matter? Even though I am speculating, she may have thought what she did was simply *clearing her mind*.

Nonetheless, I knew it was much more than that. It was readily apparent to me that prompting full presence to the moment at hand with an emphasis on novelty to a random stable object was just what Jessyca needed. She was able to take this curious, open presence and zoom this presence onto sport relevant cues. She unintentionally scaffolded from the random to the relevant, specifically to sport specific cues bringing a fresh, curiosity to each event. The field of sport psychology, in theory, research and practice, needs to integrate a Langerian mindfulness approach when helping athletes get ready for competing in moment-to-moment performance; such an approach may give practitioners new ideas for how they can help athletes approach both practice and performance in the world of competitive sport.

Langerian Mindfulness and Sport Psychology Interventions

Relying primarily on cognitive behavioral approaches to help facilitate optimal sport performance, the field of sport psychology primarily offers interventions that recreate past good performances with a dearth of understanding about how to create optimal performance. Though there is celebration and emphasis on the value of developing the ability to concentrate as "effective concentration entails attending the right things, at the right time, and in the right way," and occurs when the athlete is able to be totally immersed in moment-to-moment experience (Williams et al. 2015, p. 304), and to experience the elusive state of flow (Jackson and Czikszentmihalyi 1999), there is scant guidance in how to achieve such presence in high pressure performance.

The academic sport psychology literature offers little direction about what the athlete should focus on in the actual lived experience of sport performance, beyond the focus on sport relevant cues. "And such emphasis for athletes relies heavily on *what it was like before* in a best performance or focusing on general, static cues (e.g., keeping their eye on the ball for a tennis players; tuning into the rhythm of running when the pain sets for long distance runners)" (Baltzell 2016; Baltzell & Cote 2016). Although some of these approaches can be effective, such approaches seem to omit a fundamental aspect of performance that could be leveraged to attain even better outcomes.

The sport psychology literature lacks theoretical guide-posts for prompting never before experienced optimal performance and therefore many sport psychology practitioners have not been able to prepare athletes to create the unimaginable. We have not addressed how to engage in the unfolding of moment-to-moment experience between performers and their given competitive environments. This is what the track athlete Jessyca experienced. As a sport psychologist, I/Amy had to reach

beyond the theory and ideas offered in our textbooks to explain and understand what was occurring when she received great performance benefit from staring at a random electrical box. Indeed, I/Amy had to also seek to understand mindfulness in a way that moves beyond acceptance and tolerance of difficult internal experience. Jessyca was being mindful with an absence of internal upset and with an exclusively external focus. What is it that can prompt a never before dreamed of performance? Perhaps it can be described as Langerian mindfulness.

The stark difference between the Langerian mindfulnesss approach and the traditional sport psychology interventions is the difference between a predominantly *present* versus *past* focused approach, respectively. As it has been said before because the majority of sport psychology interventions are focused on helping athletes recreate past best performance. Sport psychology practitioners offer skills such as imagery or verbal cues (intrapersonal verbal phrases) to facilitate athletes recreating past experiences applied to the present moment, since such offerings are aimed upon the hope of the athlete re-experiencing optimal past scenarios in future performances. The irony with such an approach is that we in the sport psychology field are training a mindless approach. Langer et al. (2009) succinctly summarize how to help performers apply Langerian mindfulness to orchestra musician performance as "individual attention to novel distinctions and subtle nuances appears to alter the process of creative ensemble performance" (p. 125). This same approach can be used for all performers preparing to create best possible performance.

Integration of Langerian Mindfulness and Buddhist Mindfulness in Mindful Meditation in Sport (MMTS): An Example

In this section, I briefly describe an intervention for sport I/Amy have developed that integrates both the Jon Kabat-Zinn (Buddhist inspired) and Langrian approach to mindfulness. There have been great efforts to distinguish between Ellen Langer's conceptualization of mindfulness and that of the Buddhist approach to mindfulness (e.g., Ivtzan and Hart 2016). Langerian mindfulness has been conceptualized as a more dynamic, interactive experience with one's environment in contrast to the Buddhist approach which is characterized by a non-doing, in-active acceptance of one's experience. Unfortunately, this limiting splintering by academics has lead to the creation of interventions in sport that do not utilize both conceptualizations of mindfulness. Mindfulness mediation interventions in sport have been modeled after Jon Kabat-Zinn's Mindfulness-Based Stress Reduction (e.g., Mindful Sport Performance Enhancement, MSPE; Kaufman et al. 2009) and Stephen Hayes' Acceptance Commitment Therapy (e.g., Mindful Acceptance Commitment Approach in sport, MAC; Gardner and Moore 2007, 2012). In my own work, I/Amy have found that both approaches to mindfulness are essential to help athletes optimize sport performance.

Initially developed by mindfulness coach Joshua Summers, Mindfulness meditation training in sport (MMTS) was created to help athletes learn to increase mindfulness and to tolerate negative mind states, including both negative cognitions and affect, in an effort to ultimately enhance sport performance (Baltzell and Summers 2016). Initial data suggests that athletes and coaches benefited from the program. Specifically, athletes' level of mindfulness increased (Baltzell and LoVerme-Ahktar 2014), and the soccer athletes reported being less reactive to negative emotions on the field (Baltzell et al. 2014) while coaches also reported that their athletes were more resilient to aversive emotion (Baltzell et al. 2015).

In the current revised version of MMTS, I/Amy have added a Langerian component to the intervention. The initial goals of MMTS included: (1) increase the participant athletes' ability to cope with the experience of negative thoughts and emotions that may be present due to the pressures of competition, and (2) help the athlete participants' increase their ability to focus. Now, I/Amy have added a third goal to MMTS, to: (3) help the athlete's participants' ability to be fully present and create optimal sport performance. The intervention is comprised of six modules, and modules can be offered weekly over one hour per module or over two 30-min periods. Modules 1–3 and 5 are reflective of more traditional mindfulness mediation practices (see Table 1). Participants practice being present to their internal and external experience, primarily through practicing a non-judgmental, open-hearted awareness to what they are experiencing while practicing mindfulness meditation. This approach is consistent with the first ever recorded sport intervention utilizing these Buddhist inspired practices (Kabat-Zinn et al. 1985).

I/Amy added Module 4 to help athlete participants more directly cope with difficult emotions, as performance anxiety is the predominant issue in sport psychology. For particularly debilitative responses to sport failure, such as intense embarrassment or fear, self-compassion offers a pathway to effectively cope with such aversive emotions for athletes (e.g., Baltzell 2016; Mosewich et al. 2011, 2013). With enhanced self-compassion, athletes would be expected to be able to garner sufficient courage to persist even on the heels of failure (see Germer & Neff 2013; Neff & Germer 2013).

Table 1 Mindfulness meditation training in sport (MMTS)

Module 1	*Introduction*: Mindfulness and application to sport
Module 2	*Awareness*: Labeling cognitive, somatic and affective experience
Module 3	*Concentration*: Concentration practices and application to sport
Module 4	*Self-compassion*: Adaptively relating to aversive cognition and affect
Module 5	*Open awareness*: Open, accepting (tolerating) all internal and external experience
Module 6	*Langerian Mindfulness*: Adaptation and full presence—application to sport

Module 6: Langerian Mindfulness in Action

Emphasizing Langerian mindfulness is the other critical component added to the new version of MMTS. There was a piece missing in the initial intervention once athletes were able to become more present, tolerate difficult emotions and concentrate on task relevant cues. In particular, there was no guidance to athletes about how to bring a fresh, mindful presence to their well-learned task when competing. MMTS is designed for top collegiate, elite or professional athletes whose sport specific tasks and strategies are well-learned and are willing to expand their mental game. Many athletes need help in learning to cope with difficult emotions and currently the sport psychology field offers a paucity of ides in this realm. In addition, sport psychology interventions are equally undeveloped within the arena of prompting athletes to be fully engaged in an adaptive, creative state of mind—a Langerian state of mindfulness. In module 6 of MMTS, athletes are offered a didactic session on the meaning of Langerian mindfulness as well as examples of athletes who have employed this approach, and then are prompted to engage in exercises to practice being fully present (e.g., focusing on a stable object in their visual field such a raisin, practicing moving in space noticing novelty, creating reminders for practice and performance to make subtle adjustments in ways that no one else will notice that will help prompt best, fresh performance).

Conclusion

In this chapter, we offer a framework for understanding what sport psychologists are aiming to help athletes achieve, and the potentially great benefit integrating a Langerian mindfulness approach would offer within established interventions and as a unique approach. Sport psychology research and theory emphasizes the importance of concepts such as flow and concentration, factors that reflect when athletes are fully engaged in the moment-to-moment experience of practice and performance. Nonetheless, traditional interventions are heavily focused on looking to the past to create interventions by cultivating mental skills such as goal setting and self-talk cues to help create future optimal sport experience. In some instances what may be missing is more guidance from sport psychology practitioners about what to actually pay attention to in the moment that will help create perhaps a never before experienced sport performance. Ellen Langer's career in the study of mindfulness to a broad array of domains ultimately offers out-of-the-box thinking and extraordinary insights into how to be fully alive in each moment of our lives. Through on-going efforts to cast away how we *learned things were* and to be *willing to see what is* creates a radical different way of living. For the performance world, Langerian mindfulness is what could help bring more joy, wonder and

ultimately improved performance to any athlete, particularly those who have well-learned their skills and strategies and are ready to bring their attention to in vivo sport practice and performance.

References

Baltzell, A. L. (2016). Self-Compassion, distress tolerance and mindfulness in performance. In A. L. Baltzell (Ed.), *Mindfulness and performance* (pp. 53–77). New York, NY: Cambridge University Press.

Baltzell, A. L., & Cote, T. (2016). Langerian mindfulness and optimal performance. In A. L. Baltzell (Ed.), *Mindfulness and performance* (pp. 349–366). New York, NY: Cambridge University Press.

Baltzell, A. L., Caraballo, N., Chipman, K., & Hayden, L. (2014). A qualitative study of the mindfulness meditation training for sport (MMTS): Division I female soccer players' experience. *Journal of Clinical Sport Psychology, 8*, 221–244.

Baltzell, A. L., Chipman, K., Hayden, L., & Bowman, C. (2015). Qualitative study of MMTS: Coaches' experience. *Journal of Multidisciplinary Research, 7*(3), 5–20.

Baltzell, A. L., & LoVerme-Ahktar, V. (2014). Mindfulness meditation training for sport (MMTS) intervention: Impact of MMTS with division I female athletes. *Journal of Happiness and Well-being, 2*(2), 160–173.

Baltzell, A. L., & Summers, J. (2016). The future of mindfulness and performance across disciplines. In A. L. Baltzell (Ed.), *Mindfulness and performance* (pp. 515–541). New York, NY: Cambridge University Press.

Czikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. Washington, D.C.: Jossey-Bass.

Czikszentmihalyi, M. (1999). If we are so rich, why aren't we happy? *American Psychologist, 54*(10), 821–827. doi:10.1037/0003-066X.54.10.821.

Gardner, F. L., & Moore, Z. E. (2007). *The psychology of enhancing human performance: The mindfulness-acceptance (MAC) approach*. New York, NY: Springer.

Gardner, F. L., & Moore, Z. E. (2012). Mindfulness and acceptance models in sport psychology: A decade of basic and applied scientific advancements. *Canadian Psychology, 53*(4), 309–318. doi:10.1037/a0030220.

Germer, C., & Neff, K. (2013). Self-Compassion in Clinical Practice. *Journal of Clinical Psychology in Session, 69*(8), 856–867. doi:10.1002/jclp.22021

Ivtzan, I., & Hart, R. (2016). Mindfulness scholarship and interventions: A review. In A. L. Baltzell (Ed.), *Mindfulness and performance* (pp. 3–28). New York, NY: Cambridge University Press.

Jackson, S. A. (2012, December). Flow: The mindful edge in sport and performing arts. *Australian Journal for Sport.* Retrieved from http://www.psychology.org.au/Content.aspx?ID=4988

Jackson, S. A. (2016). Flow and mindfulness in performance. In A. L. Baltzell (Ed.), *Mindfulness and performance* (pp. 78–100). New York, NY: Cambridge University Press.

Jackson, S. A., & Czikszentmihalyi, M. (1999). *Flow in sports: The keys to optimal experiences and performances*. Champaign, IL: Human Kinetics.

Kabat-Zinn, J., Beall, B., & Rippe, J. (1985, June). *A systematic mental training program based on mindfulness meditation to optimize performance in collegiate and Olympic rowers.* Poster presented at the World Congress in Sport Psychology, Copenhagen, Denmark.

Kaufman, K. A., Glass, C. R., & Arnkoff, D. B. (2009). Evaluation of mindful sport performance enhancement (MSPE): A new approach to promote flow in athletes. *Journal of Clinical Sports Psychology, 4*, 334–356.

Langer, E. J. (2000). Mindful learning. *Directions Psychological Science, 9*(6), 220–223.

Langer, E. J., & Moldoveanu, M. C. (2000). The construct of mindfulness. *Journal of Social Issues, 56*(1), 1–9. doi:10.1111/0022-4537.00148.

Langer, E. J., Russell, T., & Eisenkraft, N. (2009). Orchestral performance and the footprint of mindfulness. *Psychology of Music, 37*(2), 125–136. doi:10.1177/0305735607086053.

Mosewich, A. D., Crocker, P., Kowalski, K., & DeLongis, A. (2013). Applying self-compassion in sport: An intervention with women athletes. *Journal of Sport & Exercise Psychology, 35*, 514–524.

Mosewich, A. D., Kowalski, K. C., Sabiston, C. M., Sedgwick, W. A., & Tracy, J. L. (2011). Self-compassion: A potential resource for young women athletes. *Journal of Sport and Exercise Psychology, 33*, 103–123.

Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology, 69*, 28–44.

Williams, J., Bunker, L., & Zinsser, N. (2010). Cognitive techniques for building confidence and enhancing performance. In J. Williams & V. Krane (Eds.), *Applied sport psychology: Personal growth to peak performance* (7th ed., pp. 274–303). Mountain View, CA: Mayfield Publishing.

Williams, J. M., Nideffer, R. M., Wilson, V. E., & Sagal, M. S. (2015). Concentration and strategies for controlling it. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (7th ed., pp. 304–325). Mountain View, CA: Mayfield Publishing.

Ying, L. F., & Chiat, L. F. (2013). Tai chi Qi flow in the kinematic process of piano playing: An application of Chinese science. *World Applied Sciences Journal, 21*(1), 98–104. doi:10.5829/idosi.wasj.2013.21.1.1578.

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Health and the Psychology of Possibility

Deborah Phillips and Francesco Pagnini

Biology is not destiny.
Ellen Langer

In her original work on mindlessness and mindfulness, Ellen Langer describes our reliance upon the Cartesian separation between our "material" body from our "nonmaterial" mind, and that by so doing we seek care from those who focus treatment on only one of the two aspects of our health. We rely upon such a mind/body dualism for our psychological as well as our physical health. Dr. Langer's examples of a mindless adherence to the mind/body dualism may trigger some skepticism inasmuch as their consequences are in a sense unbelievable, foreshadowing an outlook that seems as pessimistic as it is mindless. In one, the "learned helplessness" construct suggests that the context of a situation may supply much promise to maintaining and improving our health:

> The patient lived on what was affectionately called the "hopeless ward." For a time, renovations in the hospital made it necessary for the residents on this ward to be moved temporarily to another ward from which residents usually did get better and return to the community. The patient did well during this time. Once the renovations were completed, however, patients were returned to the hopeless ward. This particular patient died immediately afterward, from no apparent physical cause. The name of the ward had taught him the message written over Dante's Gates of Hell: "Abandon all hope, ye who enter here. (Langer 1989, p. 54)

Mindlessness relies on using previously established labels and categories without regard to the current context, what Ellen Langer refers to as a pre-cognitive commitment (Langer 1989). Distinctions between the categories "body" and "mind" illustrate mindlessly accepted bias in Western society as a direct expression

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of the separation described by 17th century French philosopher René Descartes, in which there is a strict distinction between two fundamental kinds of substances termed *res extensa* (extended things, physical things) and *res cogitans* (thinking things). Much of the Western culture continues to perceive mind and body as distinct in which health care providers advocate diagnostic and treatment plans based on the view that most disorders have either a physical or a mental etiology (Switankowsky 2000).

In a more integrated approach to health that merges our thoughts and emotions, the importance of context is paramount, in particular for its priming effect. For example, the fear involved in a biopsy emerges from our *interpretation* of the doctor's procedure, rather than the procedure itself, that is, in which our thoughts determine our feelings (Langer 1989), context mediating influences on our health. If mind and body share that context then "[t]o achieve a different physiological state, sometimes what we need to do is to place the mind in another context." (Langer 1989, p. 177). In another example, the consequences of personal choice over external motivators, we see that the attitude towards a task (e.g., having a personal commitment to not eating when making the choice oneself) results in a different outcome (less hunger) than if the choice is made for extrinsic reasons (e.g., a fee for participating in hunger research). Still other research (Turk and Gatchel 2013) shows that taking one's mind off pain often results in the pain going away or seeing the pain in a different context (e.g., playing a game) results in the use of fewer pain relievers. These examples of Langer's earliest work introduce the basis for the view that our reactions to illness may change the impact of illness on us. Moreover, with the use of biofeedback equipment to enable control over "involuntary" systems such as heart rate, we can see how "internal cues" could be a substitute for external —including mechanical—prompts.

In her initial framing, Ellen Langer begins with the important distinction between what is—the subject of most psychology researchers—and what might be (Langer Langer 1997). In other words, we come to ask how can the small changes —in language, thinking and the environment—improve our health? This is the psychology of possibility:

> (It) first requires that we begin with the assumption that we do not know what we can do or become. Rather than starting from the status quo, it argues for a starting point of what we would like to be. From that beginning, we can ask how we might reach that goal or make progress toward it. It's a subtle change in thinking, although not difficult to make once we realize how stuck we are in culture, language, and modes of thought that limit our potential…. In the psychology of possibility, we search for the answer to how to improve, not merely to adjust (Langer 2009, p. 15).

For example, if instead of accepting aging as a predictor of visual decline, we view it as an opportunity for improvement, we might look for ways to make that happen. And if we do that without evaluating our attempts as good or bad but merely as attempts, as a process being used to suggest potential opportunities for improvement, that we have by its pursuit empowered ourselves. This is another significant departure from the conventional wisdom: Instead of looking for large effect sizes, we look for success in one case. Subsequent work focuses on such

cases, taking as success an instance of possibility that had not previously been known, seen or understood. This is the fundamental building block of Langer's psychology of possibility. The importance of this is to help us understand that the world is a "product of our construction," and not as we have been taught, something to be "discovered" as if it were a stable, unchanging environmental fact (Langer Langer 1997, p. 17). She suggests we should stop believing in stability existing outside of our perception: "We imagine the stability of our mindsets to be the stability of the underlying phenomena, and so we don't think to consider the alternatives. We hold things still in our minds, despite the fact that all the while they are changing. If we open up our minds, a world of possibility presents itself" (Langer 2009, p. 18).

It is this mindless attribution of certainty that blinds us to novelty, to alternative understandings of situations. Being a mindful health learner requires that we be open to everything we can learn, that we appreciate the small things, particularly the variability that small changes can mean for our health, and that while possibility may sometimes feel impossible, in small doses it becomes increasingly more believable and achievable.

In an extension of this principle, Langer suggests that if we can conceive of ourselves as we did before a diagnosis of an illness that the diagnosis need not preclude us from improving our health—even if our trusted health care practitioners are less optimistic than we hope. In this context the use of words themselves can have a real effect on our physical health, such as when a diagnosis of cancer is made and the perception of the diagnosis is more harmful than the disease itself (Langer 2000). Thus the difference between being told that a disease is in "remission" versus being "cured" can have a real impact on our perception of and our ability to control our health: If there are no more countable cancer cells then are we waiting for the disease to "return" (as when we are told we are in remission) or has it been eradicated (i.e., we are "cured"), even if that same disease occurs later? In the same way, when we think about alcohol abuse, is an alcoholic "recovered" or "recovering" after years of not drinking? How many years does it take to make the difference? If we say instead a person is "allergic" to alcohol as one might be to shellfish and therefore to be similarly avoided, do we suggest a greater control over it than if we characterize it as a disease? There are many examples of such labeling bias. Essentially, word choices can make a major difference in how we approach our own health, as a matter of opening up the possibility of greater control and, by extension, greater health.

Ignoring changes in context and a reliance on mind/body connections results in processing information mindlessly, taking what we are told for granted without critical reflection. When diagnosed with an illness we tend to rely on an authority heuristic in which the "expert" pronounces us diseased—or well—by means of the diagnosis. The diagnosis carries with it a sort of fabric perceived as knowledge that accordingly "covers" the recipient. The associations between the diagnosis and what we believe to be "known" about it expand, giving shape to the fabric. The ability to modify how the fabric fits the situation, feelings and thoughts goes beyond the heuristic and relies on one's interpretation of the context. Absent that one remains mindlessly adherent to the implications of the diagnosis as initially

conceived, without questioning its absoluteness. Mindfulness and mindlessness and the psychology of possibility play a major role in this situation, even in case of the most severe disease conditions.

Mindfulness and the Mind/Body Connection

Despite the development of a more complex, biopsychosocial paradigm (Engel 1977) that is aimed at paying attention to the different aspects of the human health, a biomedical approach to physical illnesses continues to dominate, relegating the mind to a minor role. However, there is ample evidence that these two concepts are highly interrelated (Fava et al. 2010); recent research suggests that "negative" emotions such as fear and anger can produce direct and indirect effects on the body in terms of cardiovascular and immune system responses (Ader et al. 1995; Ho et al. 2010), fatigue (Brown and Schutte 2006), intoxication (Peacock et al. 2012), and pain (Tyrer 2006).

Similarly, "positive" emotions can lead to an improvement in physical health (Pressman and Cohen 2005).

Increasingly, more theoreticians and practitioners agree with Langer (2012) that it is difficult to deny the important role that mind plays in one's "physical reactions." This, then, raises the question of how important can we make this connection—how can we purposefully, actively use it? The question, once introduced at a more personal level, creates the opportunity for individual response, which when combined with the role of expectations, can become self-prophesizing. As Henry Ford said, "Whether you think you can, or you think you can't—you are right." If psychology plays a large part in health, the possibility of controlling the body increases exponentially. Without this belief in mental influences, the body one may be lead to mindlessly accept a diagnosis and scientific facts as absolutes. When we do not accept such "facts" as absolutes we can see that wherever we put the mind, we can also put the body. Langer tested this concept with different groups, including the elderly, airline pilots, and chambermaids and found that, indeed, if the mind is in a healthy place, the body will tend to be as well.

Counterclockwise: The Psychology of Possibility and Aging

One of Langer's earliest studies showed us the role of expectations and mindset over the body, a significant link between the power of psychology on the improvement of health (Langer 1983, 1989). In one study demonstrating a link between longevity and engagement (Rodin and Langer 1977), when one group of nursing home residents was encouraged to make choices about various aspects of their lives and another (control) group in the facility was told that the staff would provide for their care, the first group had both a happier, more cheerful disposition

and fewer than half as many of them had died than in the control group. This suggested that making choices results in increased personal control. Subsequent research on the connection between mind and body revealed that a healthy mind would put the body in a healthier place (Langer 1989), forming the basis for the 1979 "counterclockwise study," in which Langer and her students studied what effects of turning back the clock *psychologically* would have on the physiological states of the participants. The results of this study changed the way we view not only aging (the cohort being elderly men) but also of traditional western notions of "limits"—that biology is not destiny, that our mindset about our physical limits limit us more than our physical selves (Langer 1989).

In the original 1979 counterclockwise study (Langer 1989), a small group of elderly men were taken to a remote monastery in New Hampshire where, for a period of one week, they were transformed from the then current year to a time 20 years prior—magazines, books, radio, television and furnishings as well as photographs and discussion topics all were presented *and discussed* as if the men were 20 years younger. The men were asked not just to think about the year 1959, but also *to live as though it were that year*, as if they were 20 years younger. At the end of that week, the notions of typical aging were turned around by the remarkable psychological and physiological changes experienced by the participants who had been part of the "counterclockwise" experiment, compared to a similarly aged demographic control group who, while spending a week at the same retreat, were simply asked to reminisce about life 20 years prior. The expectations associated with a predetermined set of expectations about aging were replaced with a new understanding, what we know as the "psychology of possibility" (Langer 2009).

These studies over the course of 30 years offer us the opportunity to view illness with the lens that our mindset limits us more than our physical selves. It is not whether we label ourselves in remission versus cured, but rather our mindset that rather categorically declares that once we are diagnosed, we are forever ill, that limits us. If one becomes the "guardian" of one's own health (Langer 1989) then the preconceived limitations placed on our health will no longer limit us. We will become more in control of our health by being more mindful.

Mindfulness in Clinical and Health Psychology

The concept of mindfulness is now commonly used in clinical and health psychology. Some of the most promising clinical treatments to reduce distress, improve quality of life and to help people manage life with a chronic or long-lasting disorder are based on the concept of mindfulness. Many of these programs are based on meditation training to help an individual achieve a more deliberate, open-minded awareness, a focus on presence in the moment, and the ability to be non-judgmental (Grossman 2011). Through this practice of mindfulness, a more serene and balanced emotional and affective state can be achieved, an important precondition for stress resistance and resilience (Teasdale et al. 1995).

Mindfulness increases one's ability to cope with the challenges of the environment and helps develop the capability to accept one's own condition. Programs with this underlying framework of mindfulness vary, with some of the more prominent using a more standardized program such as the Mindfulness-Based Stress Reduction (Kabat-Zinn 1990). Results from meta-analytical studies support the use of mindfulness for the improvement of quality of life in clinical populations. This pattern of findings suggests that mindfulness may not be diagnosis-specific but, instead, may address processes that occur in multiple disorders by changing a range of emotional and evaluative dimensions that underlie general aspects of well-being (Hofmann et al. 2010).

Ellen Langer's construct of mindfulness, while in harmony with fundamental tenets of Eastern-based mindfulness interventions, is different in its framing and achievement of mindfulness. It is focused on the process of actively noticing new things as a way to be in the present. While in the present, people are aware of context and sensitive to perspective, aware that things are always changing and look different depending on perspective. The process of actively noticing is enlivening, both literally and figuratively. It is the essence of engagement. It is not a matter of practicing, but is more appropriately viewed as a way of being. When we are engaged in the present, actively noticing new things about or in the current situation, we stop thinking about consequences as positive or negative and instead see evaluation as in our minds, not in the environment. This often leads to a sense of being more in control and more at peace. This approach may be more appealing to people who are less able to or less inclined to participate in other more time-intensive and otherwise challenging training programs (Grossman 2011). Since some people do not feel comfortable with meditation, from a personal or religious perspective, this "meditationless" form of mindfulness provides an alternative for these patients and/or caregivers. From an epidemiological perspective, is would be inappropriate to believe that everybody can practice meditation to increase their mindfulness, which continues to be a practice less than 10 % of the US population (Barnes et al. 2008).

In summary, the application of Langer's mindfulness framework in chronic illness directly targets the concept of an illusion of stability in diagnosis—that is, that people take for granted what they are told by health care practitioners as unconditional, losing an opportunity to challenge traditional views and reflect further on one's own views. In this conceptual framework, medical diagnoses are valuable but are not a substitute for a mindful understanding about what is going on with one's body; in other words, paying attention to the variability of symptoms of illness (Langer 1983). Attention to variability has the potential to bring our physiological as well as emotional and behavioral responses under control (Langer 2009). In the situation of chronic illness, the unintended consequence of ignoring variability—the grouping together of symptoms as part of the disease when in fact the symptom might be attributed to something else entirely—inhibits our ability to exert control: "We are not our disorders, and we shouldn't be defined or constrained by them" (ibid, p. 47).

Examples of the Interplay Between Mindlessness and Chronic Illnesses

We can see a major role for the mind to play in the health of people with a chronic, or longer term, condition. There are several ways in which this interaction may take place. Some effects depend on barely known biological mechanisms, studied by psychophysiology and psychosomatics. These mechanisms may exert a direct effect on the body, as the result of a brain–body connection that needs to be explored by science. One classical example is the placebo effect, in which the deceived mind leads the body to develop an expected reaction, with no physical stimulus that justifies it. As in the counterclockwise and other earlier studies, placebos play an important role in this framework. Langer again differs from the conventional view that an inert medicine (placebo) that is not outperforming a drug marks the drug as ineffective. Instead, she argues, they can be very powerful (Langer 1989). Like other forms of indirect intervention (e.g., hypnosis, positive thinking, biofeedback), placebos "can be seen as a device for changing mindsets, enabling us to move from an unhealthy to a healthy context." (Langer 1989, p. 190) She further suggests this as an "active" process, so that people change the context of their own illness physically, all with the objective to take control over one's illness and not leave it the physician in a mindless way. The placebo effect is an example of mindlessness that can be positively used in the clinical setting: the bodily reaction depends on a category that creates a self-fulfilling prophecy via some physiological changes that have only partially been discovered.

The mind can also interact with the body as an influence on the course of the disease using indirect mechanisms. For example, having an expectation of worsening symptomatology may lead to a change of lifestyle that will physiologically impact metabolism. We can provide an intuitive example that helps to understand our point: John is a person who likes going to run every day. One day, he starts feeling tired after exercising. This sensation does not change over the next several days; prompting a doctor's visit. Shortly thereafter John is diagnosed with ALS. Starting from that moment, John looked at himself as an ALS patient.

Despite his ability and his passion, Joh stops running every day, thinking "why should I run? I am an ALS patient, I will soon be in a wheelchair." By doing that, John accelerates the process of physical function loss and decreases his quality of life by depriving himself of something enjoyable. This is an example of how a mindless acceptance of a category (in this case, the diagnosis) can lead to real and observable changes.

As described earlier, there is a convergence of study results describing how mindsets can affect the body. Clinical applications can be highly relevant here and in this way, health professionals themselves can be the most powerful medicine of all. Even the way in which doctors and nurses communicate with people they are trying to help is essential. A dysfunctional doctor–patient interpersonal communication promotes a mindless reception of any diagnosis, risking a more severe embodiment of the disease in question. Chronic diseases seem particularly susceptible to this in

communications that transmit the message "from now on, *you are a patient* with X," which is devastating for both psychological well-being and for the course of the disease. The simple use of the conditional form might reduce this risk as if instead of saying, "on the basis of clinical experience/scientific data, you *will* experience X," we say, "Clinical experience/scientific data suggest that you *may* experience X, *although this is actually unpredictable*." Furthermore, despite the mindless trust that we tend to have in science, it is often wise to keep in mind that no matter how relevant the statistics are, we are never really able to make predictions with absolute certainty. The observation that 90 % of people diagnosed with a certain condition experienced a specific course of progression does not allow one to predict anything unconditional about a single case. A communication that does not entrap the person into a label, with its own rules and expectancies, may lead to a more mindful comprehension of the situation and may reduce the overwhelming effect of the diagnosis. Furthermore, some knowledge about the psychology of possibility can help the health professionals develop a mindful disposition that will positively impact the communication.

A Brief Word on Potential Applications of Langer Mindfulness in Clinical Psychology

Ellen Langer began investigating mindlessness and mindfulness in the 1970s, directly and indirectly influencing the cognitive-behavioral approach that is now known in the practice of cognitive-behavioral therapy (CBT). Several exercises and training found in CBT and similar psychotherapeutic approaches often refer to the "cognitive revolution" promoting an increase in flexibility, novelty seeking and openness to multiple perspectives. In these approaches, many clinical conditions can be thought about in terms of mindlessness. For example, irrational beliefs, which are considered by the CBT model as the base of most disorders, are a deep form of mindlessness that consider only a specific point of view, a previous category that is acknowledged or felt to be "true." Most CBT and CT techniques, such as the use of alternative beliefs from the ABC model, directly address this, promoting mindfulness. The cognitive approach is deeply rooted in Ellen Langer's framework, though this is not always recognized. We believe that by recognizing the important role of the mindfulness/mindlessness thought processes during therapeutic settings that interventions can help generate improvements in psychological distress. Possible applications of this concept may involve strategies and techniques to be used with the patient, explanations and metaphors. The Langer Mindfulness Lab is currently working on mindfulness training interventions that can be easily implemented within psychotherapy. Separately, the concept of mindfulness can contribute to the research on psychotherapists' dispositions (Heinonen et al. 2012), as it may be an important pretreatment variable in psychotherapy outcomes (Ryan et al. 2012). Studies suggest that mindfulness meditation represents a powerful training tool to increase the therapist's awareness of

self and of his/her experience, as well as awareness of the moment-by-moment interactions in the therapist–patient dyad. It has been theorized that mindfulness has an improving effect on tolerance (Fulton 2005), concentration and mental clarity, emotional intelligence (Walsh and Shapiro 2006), coping with negative counter-transference reactions (Rodriguez Vega et al. 2013) to mention some.

Most of these studies, whether empirical or theoretical reflections, explicitly refer to Kabat-Zinn's construct of mindfulness using with meditation as the intervention or method of achievement. Our view is that Langer's conceptualization may be easier to achieve for those motivated towards a more learning-based approach, leading to positive outcomes in clinical practice.

References

Ader, R., Cohen, N., & Felten, D. (1995). Psychoneuroimmunology: Interactions between the nervous system and the immune system. *The Lancet, 345*(8942), 99–103.

Barnes, P. M., Bloom, B., Nahin, R. L. (2008). Complementary and alternative medicine use among adults and children: United States, 2007. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics Hyattsville, MD.

Brown, R. F., & Schutte, N. S. (2006). Direct and indirect relationships between emotional intelligence and subjective fatigue in university students. *Journal of Psychosomatic Research, 60*(6), 585–593.

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science, 196* (4286), 129–136.

Fava, G. A., Belaise, C., & Sonino, N. (2010). Psychosomatic medicine is a comprehensive field, not a synonym for consultation liaison psychiatry. *Current psychiatry reports, 12*(3), 215–221.

Grossman, P. (2011). Defining mindfulness by how poorly I think I pay attention during everyday awareness and other intractable problems for psychology's (re) invention of mindfulness. *Psychological Assessment, 23*(4), 1034–1040.

Heinonen, E., Lindfors, O., Laaksonen, M. A., & Knekt, P. (2012). Therapists' professional and personal characteristics as predictors of outcome in short-and long-term psychotherapy. *Journal of Affective Disorders, 138*(3), 301–312.

Ho, R., Neo, L. F., Chua, A., Cheak, A., & Mak, A. (2010). Research on psychoneuroimmunology: does stress influence immunity and cause coronary artery disease. *Annals Academy of Medicine Singapore, 39*(3), 191–196.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*(2), 169.

Kabat-Zinn, J. (1990). *Full catastrophy living*. Delta.

Langer, E. J. (1983). *The psychology of control*. Beverly Hills: Sage Publications.

Langer, E. J. (1989). *Mindfulness*. Addison—Wesley/Addison Wesley Longman.

Langer, E. J. (1997). *The power of mindful learning*. Addison—Wesley/Addison Wesley Longman.

Langer, E. J. (2000). Mindful learning. *Current Directions in Psychological Science, 9*(6), 220–223.

Langer, E. J. (2009). *Counter clockwise: Mindful health and the power of possibility*. New York, NY, USA: Ballantine Books.

Langer, E. (2012). The mindless use of medical data. *Journal of Business Research, 65*(11), 1651–1653.

Peacock, A., Bruno, R., & Martin, F. H. (2012). The subjective physiological, psychological, and behavioral risk-taking consequences of alcohol and energy drink co-ingestion. *Alcoholism: Clinical and Experimental Research, 36*(11), 2008–2015.

Pressman, S. D., & Cohen, S. (2005). Does positive affect influence health? *Psychological Bulletin, 131*(6), 925.

Rodin, J., & Langer, E. J. (1977). Long—term effects of a control—relevant intervention with the institutionalized aged. *Journal of Personality and Social Psychology, 35*(12), 897.

Rodríguez, V. B., Bayón, P. C., Palaotarrero, A., & Fernández, L. A. (2013). Mindfulness-based narrative therapy for depression in cancer patients. *Clinical Psychology & Psychotherapy, 21*(5), 411–419.

Ryan, A., Safran, J. D., Doran, J. M., & Muran, J. C. (2012). Therapist mindfulness, alliance and treatment outcome. *Psychotherapy Research, 22*(3), 289–297.

Switankowsky, I. (2000). Dualism and its importance for medicine. *Theoretical Medicine and Bioethics, 21*(6), 567–580.

Teasdale, J. D., Segal, Z., & Williams, J. M. G. (1995). How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behaviour Research and Therapy, 33*(1), 25–39.

Turk, D. C., & Gatchel, R. J. (2013). *Psychological approaches to pain management: A practitioner's handbook*. Guilford Publications.

Tyrer, S. (2006). Psychosomatic pain. *The British Journal of Psychiatry, 188*(1), 91–93.

Walsh, R., & Shapiro, S. L. (2006). The meeting of meditative disciplines and Western psychology: a mutually enriching dialogue. *American Psychologist, 61*(3), 227.

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Dr. Francesco Pagnini is Assistant Professor at the Catholic University of Milan and collaborates as post-doctoral fellow with Harvard University. He has completed his Ph.D. in Clinical Psychology from the University of Bergamo. His primary interest is focused on the improvement of psychological well-being of people with chronic disease, in particular with interventions that improve mindfulness. He is currently on research about mindfulness both in Milan and Cambridge, MA, working with Professor Ellen Langer and Dr. Deborah Phillips. He is currently Associate Editor for the journals "Frontiers in Psychology for Clinical Settings" and "BMC Psychology."

Ellen Langer: Philosophy, Autobiography, and a Healing Quest

James Rhem

In 1982 *The New Yorker* published an excerpt from a book by Bruno Bettelheim published that same year called *Freud and the Soul*. Several aspects of the piece had a big affect on me. In the weeks leading up to the time when I knew I would sit down and begin to write about the impact of Ellen Langer's work on 'mindfulness,' I began to recall the piece and wondered why. The memory stood there like a friend at the door waiting to enter, a friend I was glad to see, but hadn't expected and wondered why they'd shown up. It didn't take long for the meaning of such a happy reunion to become clear. The several aspects of the Bettelheim piece that I had embraced so warmly were each present in my response to Langer's work and the influence it has had on me and on my work as Executive Editor of the publication I founded over 20 years ago on college teaching and learning—*The National Teaching and Learning FORUM*.E

The burden of Bettelheim's argument stands on his belief that Freud has been mistranslated in English editions of his work. Where Freud wrote *die Seele*, for example, Bettelheim contends he meant "the soul" with all the humanistic implications of that concept rather than "the mind" (the translation in English editions) with the more medicalized understanding it carries for American readers. So language—labels, terms, the honest and rich communication of ideas—was one aspect of the piece I celebrated. My doctorate in eighteenth-century English literature and my decades as a writer have made me especially interested in texts and what they reveal beneath and beyond what they say simply by the way they say it.

Another aspect very much related to Bettelheim's focus on language was his admiration of the way in which Freud had probed his own experience, his autobiography in a sense, his thinking and feeling as a primary source of insights informing his construction of a theory of psychoanalysis. Rather than being fueled by detached observation of the problems, the suffering, the ways of thinking of others, he'd methodically analyzed his own. Freud's admirers readily acknowledged

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this, of course, but it seemed to me that that understanding—like the mistranslation Bettelheim focused on—had taken a medical bent rather than a view that looked at Freud as a man struggling philosophically to understand his soul and perhaps man's soul.

Also, while it may have been in the forefront of others' awareness that in terms of intellectual history psychology began as part of philosophy, reading it in Bettelheim's piece marked the point where that fact took vigorous root in my own awareness. Growing and flourishing there, it happily bridged a gap between my background in the humanities and my deep respect for science and the scientific method.

As I began to converse with my old friend, this unbidden memory, I realized that the things I responded to in the way Bettelheim saw Freud were closely related to the things I had responded to in Langer. As with Freud, many of her psychological insights begin not with designs to observe others, but with observations of herself. Her advantage over Freud lies not only in the fact that she writes in English for a largely American audience (though perhaps I'm wrong about that, since *Mindfulness* has been translated into no fewer than 15 languages), but also in the fact that she writes effectively in what might be called two dialects of English. Her peers, fellow psychologists and academics, are well positioned to describe the influence and value of her voluminous scientific writing. That is one of her dialects, a mode of discourse that gives one kind of authority to her work. But Langer commands authority in another dialect as well, her books for a general audience, and it is those I want to talk about.

However one feels about Freud—and I don't want to press the comparison between Freud and Langer too far—it's hard not to acknowledge his dedication to first understanding and then relieving suffering. Though Freud's books are rich and provocative reads on many levels and are praised for the elegance of the writing (at least in Freud's German), few would describe them as up-beat, positive, and uplifting. While Langer's don't have Freud's literary qualities, a robust, conversational immediacy gives them a level of accessibility and authority closed to most lay readers of Freud. Though she left clinical work behind early in her career, one feels the presence of that experience in all her general audience books. As with Freud, Langer's dedication to understanding and relieving suffering figures in her motivation for each book. Freud wrote of "the soul" and the unconscious; Langer writes about "the authentic self" and its mindless inhibitions. Perhaps it is fair to look at one as the basement and the other the attic. Both affect our identities and how we function in the world. We may not have the strength or the courage to search through Freud's dank, dark cellar, but in rethinking the contents of the attic of forgotten, unexamined, dusty categories, and labels Langer demonstrates we have mindlessly put aside, a new world of creative possibility and power open to us. Moreover, if in our kitchens and living rooms we looked at many "facts" as "probabilities", we'd likely become better cooks and conversationalists.

Overt references to philosophical ideas figure only passingly in Langer, but loom very large as background to the thrust of her work and insights into mindfulness. For anyone steeped in a humanities background, as I am, they resonate very

strongly. Langer's Arden House study with Judith Rodin in the 1970s on the effect of offering more control in the form of simple choices to residents of a nursing home wrangled with and persuasively challenged Decartes's mind/body split. A more elaborate experiment known as the "counter-clockwise" study also from the 1970s, further advanced the findings which were again recently replicated in a series of television programs for the BBC. Langer then laid out this early work for a general audience in her most recent book, *Counterclockwise: Mindful Health and the Power of Possibility* (2009). The concept of a disunion between mind and body has been so powerful in Western thinking and Langer's experimental results so dramatic in challenging it, that she admitted in an earlier interview for BBC radio's "Mind Changers" series (which profiles seminal experiments in the history of psychology) that she and Rodin were hesitant in publishing their results, fearing they would not be believed.

If some of her work challenges major philosophical perspectives, more often it affirms scientifically the value of long-standing ideas which previously had only philosophical support. Her emphasis in *Mindfulness* (1989), *The Power of Mindful Learning* (1997), and in *On Becoming an Artist*: *Reinventing Yourself Through Mindful Creativity* (2005) on the fact that context constantly changes echoes Heraclitus' idea that no one steps in the same river twice. When Langer writes in *On Becoming an Artist* that "the mindful individual comes to recognize that each outcome is potentially simultaneously positive and negative (as is each aspect of each outcome) and that choices can be made with respect to our affective experience", she echoes Heraclitus' "upward-downward path" and the "hidden harmony" of opposites. To bring a visionary poet into the mix, at points in Langer there are perhaps even stronger echoes of William Blake's notion of "Contraries".[1]

Epistemology, the place of uncertainty in knowing, existential questions about identity, all figure constantly in Langer's on-going inquiry into well-being. And well-being—defining and exploring the good life and the nature of true happiness—had been a central concern of philosophy long before psychology began to be regarded as a medical specialty. Tracing how her early investigations of the "illusion of control" led to her concept of "mindfulness" helps explain her having been dubbed "the mother of positive psychology". Listening to the message of her four general audience books as a whole, one hears (or at least I hear) Thomas Carlyle's *Sartor Resartus* (1831) and the shift from an "Everlasting No" to an "Everlasting Yea", or perhaps closer to hand, psychotherapist Viktor Frankel's recollection in *Man's Search for Meaning* (1946) of that moment as a prisoner in Auschwitz when he felt the overwhelming positive power of "yes".

[1]Blake's answers to the assertions that the body and mind are separate and that the body is evil and reason good in *The Marriage of Heaven and Hell* seem especially worth recalling in the context of Langer's "counterclockwise" experiments:

1. Man has no Body distinct from his Soul for that call'd Body is a portion of Soul discern'd by the five Senses, the chief inlets of Soul in this age.

2. Energy is the only life and is from the Body and Reason is the bound or outward circumference of Energy.

But all of this is background, after-thought, interpretation: It undoubtedly informs the persuasive influence of Langer's work on my thinking and that of like-minded souls, but for the wider audience perhaps the persuasive power lies in the way she has married and given voice to some ancient philosophical wisdom through the scientific objectivity of social psychology research. It is more than fair that we look for the reassurance of empirical evidence when someone suggests to us that we'd be freer, healthier, happier, and more creative if we changed some foundational ways we tend to think about and act in the world, especially if they are telling us—as Langer does repeatedly—that it is really simple and relatively easy to do. So it is important that her theory of mindfulness stands on the solid foundation of hundreds of careful, experimental studies that she's conducted as well as on a considerable body of research by others.

On the other hand, it is largely our cognitive (and skeptical) side that craves the reassurance of data. Our affective side tends to search for and trust more personal sources of authority. As Langer suggested in *Mindfulness* in 1989 (p. 174) and as neurobiological research has subsequently confirmed, affect and cognition have a unity, not just a relationship, and it is that understanding, as I see it, that accounts for the rhetorical strategy and success of her books for the general audience.

Let me give an extended example from *Mindfulness*: Chap. 9 "Decreasing Prejudice by Increasing Discrimination". The chapter takes up the effect of labels as the repositories of settled, hence mindless, thinking, thinking that often proves prejudicial. Typically Langer begins, not by citing a research study, but by confessing how she first came to notice the effect of the phenomenon in her own life. In this case, she recounts how as a clinical intern at Yale, she regarded guilt or fear or some other matter as a psychological problem when she experienced it in people who'd come to the clinic and were thus labeled "patient" while at the same time, she realized she regarded the same guilt and fear as normal, even sensible in other circumstances. The narrative quickly moves from this personal, confessional anecdote to explaining how it led to the design of an experimental study in which groups of therapists were shown a videotape of an ordinary man being interviewed. One group included therapists from different schools of therapy; the other, therapists trained to avoid using labels. When the man was described as a "job applicant", members of both groups regarded him as well-adjusted. When described as a "patient", members of the group trained to avoid labels still saw the man as well-adjusted, but members of the other group saw him as having a variety of significant psychological maladies.

Langer envelops the authority of the experimental study within the authority of the personal, confessional anecdote with which she began, making them both anecdotal episodes in her larger story. Repeatedly in her explanations of mindfulness, she emphasizes the importance of making novel distinctions, of noticing differences, and the difference between evaluation and discrimination. This is the 'critical awareness' at the heart of Langerian mindfulness. Her skill in writing about this conceptualization of awareness for a general audience lies in the way that a

confessional anecdote models the kind of mindful awareness she is advocating and at the same time establishes trust (because we tend to trust a narrator who can notice, acknowledge, and learn from her own blind spots). Here, she is leading up to a rhetorical turn that will do the same thing for the reader's larger conceptual understanding of mindfulness by acknowledging (confessing?) its possible dark side.

In a rather cunning twist, Langer next uses Jonathan Swift's description of Gulliver's first exposure to the Houyhnhnms (who turn out to be the most peaceful and rational characters in *Gulliver's Travels*) as a means of illustrating how noticing difference (or "deviants" from "normal people") can initially excite fear and confirm prejudice. This snippet of testimony from the humanities introduces a brief description of another study indicating the effect of mindfully viewing a subject by groups who'd either been told the person was a millionaire, a cancer victim, a homosexual, an ex-mental patient or some other label, or merely told to "attend to and think about the tape" (p. 157), or finally were asked simply to watch as they would normally watch television. The first two groups noticed more things about the person and could recognize him even in disguise, but their evaluations were extreme. The noticing led them to see the ordinary person as very different from most people, leading Langer to conclude: "The traits and details that we pick up when mindful are taken to be unusual or extreme. If we use these mindfully collected observations to justify biased mindsets, prejudice is reinforced" (p. 158).

After many pages extolling the positive effect of engaging mindfully with experience, of noticing differences, making distinctions and so on, Langer has led readers into a new perspective on her own material. What if engaging mindfully and noticing differences leads only to confirming old, often prejudicial categories? The positive modality of noticing, she's shown, doesn't always lead to a positive result. Noticing emerges as merely a tool, a first step in the larger concept of critical awareness at the heart of Langerian mindfulness. What's missing? Another personal anecdote—"The Painted Cast"—and the experimental study it prompted leads toward an answer.

Langer relates how walking to the supermarket one day she encountered a woman with a heavy cast on her leg. They exchanged friendly smiles and Langer tells of pausing to wonder why the interaction had been so pleasant. She hadn't felt awkwardness looking at the cast. It had been painted colorfully thus inviting, indeed authorizing, friendly curiosity. It combined opposites, saying on the one hand 'Yes, I'm injured' but on the other 'I've found a fun-loving way to accept my lot.' The painted cast opened a window on the individual as a whole person rather than merely an injured person. Again, autobiography modeling mindful engagement introduces a brief report of an empirical study exploring the social psychology of the encounter—"why we avoid encounters with people who are physically different and also how this effect can be overcome" (p. 159).

Here, pairs of subjects were brought in and asked to sit in separate waiting rooms before being introduced for some experiment or other. One of the subjects was always a person with a significant physical difference—a large leg brace or very visible pregnancy—the kind of difference one might feel social pressure not to

notice or to avoid evidence of noticing. Half the subjects without the physical difference waited in a room with a two-way mirror looking out on the other room where the person they were later to meet waited. For the other half, a curtain prevented this prior opportunity to notice the difference and satisfy a natural but socially disapproved curiosity. When the subjects were brought together, those who'd been faced with the curtain acted more distant, sitting farther away from the person with the obvious difference from a "normal" subject, while those who'd been able to preview through the mirrored glass did not.

A humanizing signal, an opportunity to safely exercise what she describes as "mindful curiosity", lowers prejudicial barriers, those combinations of "precognitive commitments" and affective aversions to "deviance" that Langer calls "mindlessness".

(In *On Becoming and Artist*, Langer explores this aspect of mindfulness as "putting people back in the equation" (pp. 112–115). There, again, the certainty of prejudice and label dissolve into the discovery of creative potential via an embrace of uncertainty and fresh observation.)

At this point in the chapter, having established a trustworthy voice through the alternation and combination of personal anecdote and experimental study (or refreshed that voice, for she's done something like this throughout the book), Langer now uses its harmony to lead readers into an equally accessible treatment of a more complex understanding of mindfulness. Experimental support recedes from anecdote to footnote as she describes a mindset (mindfulness) more focused on *process* and a breadth of possibilities rather than *outcome* and the narrowness of only one.

Tying things together, she reminds readers of earlier chapters which have highlighted the ways in which outsiders or "deviants" from the norm can have special insights and advantages as a result of what might appear as limitations or disabilities in other contexts. But then, she quickly shifts to reminding readers that persons who come to identify with a disability or excluded status may end up limiting themselves

When taught that it is okay to be old, black, gay, disabled, divorced, a recovering alcoholic, and so on, people may become less likely to question their perceptions, including those in areas unrelated to their different status or level of ability (p. 162).

"A mindless assumption of limitation associated with particular handicaps may in itself be disabling", she continues. "This kind of mindlessness, which lowers the expectations of a handicapped person, can arise as a protection for that person's self-esteem…. Such excuses are useful to all of us". All along, of course, Langer has been talking about "all of us" by focusing on the clouded lenses through which the majority often view persons with nominal disabilities. By switching back and forth between a positive and negative view of noticing and identifying with difference, she's left readers eager to find a way out. Langer offers that way out by exploding the very concept of "deviance" as a restrictive category by puncturing it with the lance points of "distinction", "discrimination" and "difference".

She delivers the peroration of this attack on restrictive categorization in two elegant, fast-moving paragraphs dissolving the restricted understanding imposed by the dual concepts of heterosexuality and homosexuality. "The bisexual who enjoys

sex with both genders is the first obvious exception to this distinction", she writes. "Next, where do we put a man who prefers to fantasize about men while making love to women? Then, what about a completely celibate person; or the married transvestite; or the person who makes love with a transsexual presently of the opposite sex; or the person who was heterosexual, had one homosexual experience, and is now without a partner?"

These and the other now familiar sexual variations that Langer rehearses were settling into common consciousness in 1989, but new enough to make her point in a fresh and vigorous way. This whirl-wind of insightful, compassionate, and clearly reasonable common sense sets the reader up to accept the notion that "A mindful outlook recognizes that we are all deviant from the majority with respect to some of our attributes, and also that each attribute or skill lies on a continuum" (p. 167).

Langer concludes the chapter and essentially seals the persuasive deal she's been brokering with the reader with an account of another study. Here, she describes an experiment in which a group of elementary school children are led to become mindful in evaluating slides and descriptions of people with different kinds of skills and obvious limitations, a cook identified as deaf for example. The experimental group was prompted to go beyond the usual school goal of finding "*the*" answer to why these people might be good at their profession toward finding "*an*" answer. Indeed, they were asked to list four reasons rather than one.

In a second phase of the study, one group of students was asked, for example, "*how*" a woman pictured in a wheelchair could drive a car, while another group was asked simply "*Can* this person drive a car?"

From "*the*" answer to "*an*" answer; from "*can*" something be done to "*how*" to do something students in the experimental group were receiving training in mindfulness, a concept Langer has repeatedly presented as being as simple as the innocence we associate with children. Not surprisingly, but reassuringly, in a subsequent assessment of prejudice, the children who'd had the covert mindfulness training proved far removed from mindless responses. What game would they think a blind girl would be a good team partner in? Pin-the-tail-on-the-donkey, they said. A wheelchair race? The boy in the wheelchair. A sing-along? It probably wouldn't matter. They'd learned that "whether or not something is a disability depends on the context" (p. 170).

At this point, any reader might wonder why, given that *The Power of Mindful Learning* has had the most immediate impact on my work in *The National Teaching and Learning FORUM*, I should spend so much time looking so closely at a single chapter in *Mindfulness.* On an instrumental level, I wanted to draw attention to the ways in which Langer's skill in this second rhetorical dialect, writing for a general audience, weds cognitive and affective concerns into a fundamentally persuasive philosophical argument. Why give up routine, unexamined modes of thinking, labels, prejudices, "precognitive commitments"? Doing so has the capacity to lead to more freedom, creativity, and empowerment. Things we think we don't like can turn out to be at least interesting when we allow ourselves to notice new things about them. And in the process, we discover that at least we are more interesting

and powerful than we thought we were precisely because we find ourselves enjoying exercising our capacity to notice anew.

But persuasion turns not simply on advocating a point of view without acknowledging its possible weaknesses. Noting the dangers of stopping short in noticing is something Langer deftly does in this chapter. If we stop short in noticing, she admits, we can merely embellish prejudice. However, as she's demonstrated, "any categorical distinction can be broken down into further distinctions" (p. 165). Thus she can reasonably and persuasively conclude:

> Once we are aware of these distinctions and make enough of them, it may no longer be possible to view the world in terms of large polarized categories such as black and white, normal and disabled, gay and straight (p. 165).

Almost any chapter from Langer's books might illustrate her skill in writing for a general audience, but this one persuasively highlights an idea central to the challenge and possibilities for education at the deepest levels—social, psychological, and moral. *The Power of Mindful Learning* questions seven commonplace ideas about how to teach, ideas that still shape and hobble most pedagogy. But perhaps it's here in *Mindfulness* focusing on the power of discrimination that she lays the cornerstone for understanding authentic education and the reform of schooling. Because its examples dwell on the handicapped and concepts of deviance, the chapter nominally looks at discrimination's relation to social prejudice and exclusion. At the same time, however, discrimination steps forward in the chapter as a mental, emotional, and moral faculty. Langer shows that as we are led to exercise our powers of discrimination, led toward making the exercise of them a habit of being, discriminations in the prejudicial sense drop away. This is 'critical awareness.' The implications of this finding for education aren't just social. The mental–emotional–moral exercise of faculties of discrimination leads to deeper engagement in learning which is a primary topic in the current discourse on improving college teaching and learning. Moreover, as she explores more fully in her most philosophical book, *On Becoming an Artist,* engagement leads to more creative thinking. It also leads to thinking that's genuinely critical rather than evaluative because it is thinking fueled by a continuing spirit of inquiry and play rather than a drive toward judgment and outcomes. Perhaps all mindfulness begins in an awareness of self, but this 'critical awareness' central to Langer's understanding connects directly with metacognition as it is spoken of by educators and educational theorists. Today, developing students' metacognitive awareness, an awareness of how they are engaging with material, how they in particular are learning, is an important goal in college teaching and learning.

Finally, Langer's insistence on continuing discrimination's openness to ever-shifting contexts, new information and new ways of seeing things engages one of philosophy's biggest questions in the twenty-first century—uncertainty—and it frames that engagement as an eager embrace. What is more deadly in education than repeating the experiments in a lab handbook where the "right" results are already pictured? Turning to another long-honored use of persuasive language she

concludes aphoristically: "Certainty breeds mindlessness. Uncertainty… is a friend rather than something to be avoided or feared".

Here, in Langer's presentation of discrimination as a power of the mind, perhaps mind is best understood as Freud seems to have understood it as *die Seele,* the soul. She writes as a scientist, a social psychologist, but in passages like this near the end of *On Becoming an Artist* the nourishing roots of psychology in philosophy emerge with abundant clarity

> Taken together, these thoughts and empirical observations suggest that when there is no uncertainty, we give up the opportunity to perceive control in a situation, to learn about new aspects of it, and to meet our current needs to the extent that they may differ from our needs in the past. In short, recognizing the power of uncertainty allows us to grow and promotes a dynamic rather than a static relationship with our world. Thus, we begin any form of creative engagement uncertain of what to do next, what options to consider, or how the option we select will feel to us. That is the reason to pursue it in the first place.
>
> Rather than seeking to reveal a hidden stability within ourselves, the mindful approach to decision making seeks to provide us with a framework in which we may remain open to the processes through which meaning arises within and among people. This openness to the perspective of others and to information viewed as novel allows us to construct meaning (p. 225).

Judging from brief comments posted on the Internet, some younger readers have been disappointed when they picked up *Mindfulness.* They had expected a primer on Buddhist meditation or a conventional self-help book. While all of Langer's books offer help, none are self-help books in the conventional sense and all rely on the powers of active consciousness central to Western thought. From one perspective, Langer's books for the general audience provide reports on the rigorous exploration and affirmation social science offers her theory of mindfulness. From another, the books offer spirited philosophical seminars in an informed but colloquial vein on health, well-being, creativity, clear thinking, control, and possibility.

When I look for words to summarize what Langer's philosophical–psychological insights offer, another unbidden memory comes to the door reminding me not of Blake, but of another eighteenth-century poet, Blake's opposite. As a summary, perhaps these lines from Epistle 4 of Alexander Pope's "An Essay on Man" will serve

> That reason, passion, answer one great aim;
> That true self-love and social are the same;
> That virtue only makes our bliss below;
> And all our knowledge is, ourselves to know.

References

Langer, E. J. (1989). *Mindfulness*. Reading, Massachusetts: Addison-Wesley Publishing Company Inc.

Langer, E. J. (1997). *The power of mindful learning*. Cambridge, MA: Perseus Books.

Langer, E. J. (2005). *On becoming an artist: Reinventing yourself through mindful creativity*. New York: Ballantine Books.

Author Biography

Dr. James Rhem is the Executive Editor of *The National Teaching & Learning FORUM*, a publication devoted to discussion of college teaching and learning which he created in 1990. Dr. Rhem has keynoted national, regional and international conferences on faculty development and teaching, and worked with the Carnegie Foundation for the Advancement of Teaching and Learning. He took his Ph.D. in English Literature at the University of Wisconsin-Madison in 1979. He has taught at the University of Wisconsin and at a number of colleges in the Midwest. His independent scholarship is in the history of photography where he has published several books, including an award-winning study of Ralph Eugene Meatyard's "The Family Album of Lucybelle Crater" in 2002 and the Phaidon 55 on Aaron Siskind.

Possible Components of Mindfulness

Michael Lamport Commons and Dristi Adhikari

Possible Components of Mindfulness

The authors would like to acknowledge the contribution of Dr. Ellen Langer to the study of mindfulness. She is also one of the founders of the field of positive adult development, sponsoring a meeting of the Society for Research in Adult Development at Harvard in the 1980s. Her early studies were based on the practice of mindfulness to help understand human growth and development. Unlike some prominent developmental theorists, who argued human growth to be fixated in the childhood, she argued that human growth is boundless. The human growth can be potentially altered by the change in fundamental style of psychological functioning. Through her studies on mindfulness, she found that "mindlessness" resulted in fixed endpoints essentially by drawing categories only from the past events and fixating the possibility of growth. However, by being "mindful", one continually draws from the present experiences and creates expanded possibilities (Langer et al. 1990; Alexander et al. 1990).

Mindfulness is the process of actively drawing novel distinctions. It is the practice of actively noticing where one's attention is placed to be in the present. Western psychology recognizes mindfulness as the "consciousness" that arises through intentional attendance to moment to moment experiences in a nonjudgmental and accepting way. It results in context-sensitivity and a heightened awareness of alternative perspectives (Langer 1989).

Mindfulness is multifaceted in nature and is examined from multiple perspectives. Recognizing the process by which mindfulness affects sentiments and behavior is

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often muddled by the multifaceted nature of mindfulness. Hence, the mediators and determining factors of mindfulness-based interventions are yet to be correctly identified empirically (Shapiro et al. 2008). Despite the lingering issues with research design, various clinical studies have documented the physical and mental health benefits of mindfulness-based training interventions. Cultivating mindfulness is claimed to yield variation of outcomes ranging from being 10 % happier, to being little more at ease and less anxious, to dealing with lingering pain and much more (Davidson and Kaszniak 2015).

In the paper, Mindfulness Based Training Components (MBTC) is discussed as mindfulness-based training intervention. If one is to have critical mindfulness, the following have to be known (a) the components of mindfulness, (b) what they are supposed to do and (c) what they actually do? Aggregating mindfulness together without laying out its components makes it impossible to understand different dimensions in mindfulness. The components of mindfulness are laid out in the paper to understand critical mindfulness as an experimental and clinical approach to (a) understanding human behavior and (b) formulating interventions to improve human conditions. MBTC increases one's clarity and equability, producing beneficial effects on (a) well-being, (b) improve psychiatric, and (c) stress-related symptoms (Hölzel et al. 2011).

The research findings on mindfulness are often difficult to interpret in large part due to the unique conceptual and methodological issues pertaining mindfulness. Taking that into consideration, series of definition are provided to study mindfulness in a scientific fashion as a multifaceted concept.

Multifaceted Concept

Mindfulness is multifaceted and needs to be examined from multiple perspectives. From a viewpoint of exposure therapies, mindfulness can be perceived as a form of "desensitisation" (p. 205) to internal events (Whitfield 2006). To experience a cognitive event mindfully, it is important to make a distinction between "that which experiences and that which is experienced, the subject and the object, the seer and the see" (Whitfield 2006, p. 205). Buddhist practitioners have referred to this in terms of not identifying with the thought that is, "I am not the thought, the thought is separate from me" and therefore can be observed from a detached viewpoint (Whitfield 2006, p. 206). The mindfulness practitioners often argue that the present-moment attention and awareness central to mindfulness practice may offer a way out of the standoff presented by the supposed impression of free will. They further argue that the thoughtful openness of nonjudgmental, present-moment awareness can help foster the capacity to transform the mental formations which constrain autonomous thoughts and actions (Whitfield 2006).

Mindfulness is first-person experienced based. First-person standpoints refer to those characteristically measured by reports from the subjects' themselves. Mindfulness focuses on the importance of experience over knowledge of that

experience. If one intends to pursue the nature of lived experience from first-person perspective, a refined instrument of "introspective access" is a procedural requirement to sufficiently capture the sensitivity of mindful experience (Davidson and Kaszniak 2015, p. 582). Further, as a first-person experience, it is important to be aware of the individual intention and mental capacity one brings to the practice and what one takes out from the practice.

Various research findings propose that theorizing mindfulness as a multifaceted construct is helpful in understanding its components and its relationships with other variables (Baer et al. 2006). Different researchers have identified different phases related to mindfulness. Baer et al. (2006) examined the factor structure of mindfulness by merging all items from the previous mindfulness measures into a single questionnaire. The method was theoretically neutral, in that a previous notion of mindfulness did not control the formulation or selection of items. Investigative factor analysis performed with a large undergraduate sample suggested five facets of mindfulness: (a) witnessing, observing, or attending to thoughts, feelings, perceptions, or sensations, (b) describing or labeling with words, (c) acting with awareness, (d) nonreactivity to inner experience, and (e) nonjudging of experience (Baer et al. 2006, p. 36). These facets were internally consistent and only moderately intercorrelated, indicating distinct but related concepts. Further, Leary and Tate (2007) suggested five facets of mindfulness focused on distinguishing among the separate effects of the various components in need to clarify the underlying process of mindfulness. The five components were: (a) mindful attention, (b) diminished self-talk, (c) nonjudgement, (d) nondoing, and (e) a particular set of philosophical, ethical or therapeutic beliefs (Leary and Tate 2007, p. 251).

First, the multifaceted nature of mindfulness points to the complexity of the process of mindfulness. Branded by varied interacting factors, it may be too difficult to accurately study mindfulness. Second, the variability in the identification of multifacets among researchers' increases to the complexity of what underlying mechanism of change is responsible for what has changed. Thus, in order to understand the process of mindfulness and promote replicability, mindfulness has to be variabalized. Several current descriptions of mindfulness suggest a multidimensional nature. Much of the mindfulness literature is vague and figurative. Hence, to address the issue, we are introducing a background that brings it closer to the realm of behavioral science—by not just studying its effectiveness but, what it is doing and how it does. This involves knowing what events are on the mindfulness and knowing how to find the dimensions.

Event and Sources of Knowledge

To define the source, the notion of *what is an event* has to be defined. Further, to define *an event*, the notion of perturbations is used. A *perturbation* is a change in the normal or regular state of something. In other words, it is the change in the background state of equilibrium (Commons and Adhikari 2015; Commons 2001).

There are three main sources of knowledge and information that experts use. Each of these sources of knowledge has their place but, there is a huge difference in how kind of information source is (a) trusted and (b) why.

The first of the three sources is analytic knowledge. Analytic knowledge includes logic and mathematics. However, analytic knowledge requires no detection of *perturbations*. *Model of Hierarchical Complexity* (MHC) is an example of a mathematical model. The second source of knowledge is empirical knowledge. Empirical knowledge requires two independent paths of detection of perturbations. For example, we detect the existence of an electron by seeing (a) that its path is bent by a magnet, (b) its track ionizing liquid hydrogen in a bauble chamber is a second path, (c) its colliding with another electron produces light, and (d) other high energy particle. Most behavioral science research includes analytic knowledge. The third source of knowledge is the experiential knowledge. Experiential knowledge includes people's (a) personal experiences, (b) their history, (c) eye witness reports, (d) stories of others, and (e) art and music. There is only one path of detection of *perturbations*—from the person or the reporter of the event. Furthermore, there are no independent paths (Commons and Adhikari 2015; Commons 2001).

Importance of *r* or Effect Size

The statistical measure of how strong the association between two variables is called *r*. This is also the effect size, a measure of the linear association amid two variables. A large effect size is an effect which is big enough, and or consistent enough, that one is able to see "with the naked eye". A small effect size is the one in which there is a real life effect, something is really happening in the world but, can only be seen through careful study (Commons and Adhikari 2015). The laundry problem predicts how difficult people find an item with an *r* of 0.984. In Fig. 1, the prediction of stage performance by the *Order of Hierarchical Complexity* is shown. In Fig. 1, stage is on the *y*-axis and the *Order of Hierarchical Complexity* (OHC) is on the *x*-axis. With the large effect size, the laundry problem predicts the 96.8 % of the variability. Hence, 3.2 % of the time the test will not predict how "smart" on the laundry task a person will be. On the other hand, most social science studies have a lower *r* value, for example an $r = 0.33$. Nonetheless, one still would have to do a clinical assessment of (a) how well did the person pay attention? (b) How motivated were they to answer correctly? (c) How supportive was the culture for using the highest stage the person could perform at? Hence, a clinical assessment would still be necessary.

When there are more than one variable used to predict, the beta coefficients, β, of those variables are required. The βs are roughly the correlation between the variable and what they are to predict. The error term of those β has to be included.

Factor Analysis

Almost all psychometric tests are developed using factor analysis. Factor analysis is a statistical method used to describe the common variability among observed, correlated variables. The common variability is described in terms of small number of unobserved variables called *factors*. Unique *factors* are mutually uncorrelated. For example, it is possible that variations in four observed variables mainly reflect the variations in two uncorrelated unobserved variables. For example, Spearman's (1927) *g* ("general") factor is the first factor in IQ. Every item will have a factor loading found from a factor analysis. The factor loading is the correlation coefficient between—(a) the item and (b) the factor. The higher the factor loading of the item, the more it represents the factor. Having a factor loading of 0.7 or higher is a good rule of thumb in factor analysis (Commons 2001).

Dimensionality of Variables

The researcher has to insure that a set of questions in a scale is unidimensional. If the set of questions is multidimensional, it is hard to use them as either an independent or dependent variable. As a result, more frequent variable will condition the frequency of the outcome. This can be done by submitting the items in a proposed scale to a factor analysis with a pre-study. Items that load on the first factor highly have to be chosen. A Rasch tests for the unidimensional ordering of items. Rasch Analysis does not guarantee that there are not more dimensions making up the single scale but it does mean that the scale items are transitive.

If A > B, B > C then A > C.

Interaction Terms and Multiple Regressions

An *interaction* occurs when the degree of the outcome of one independent variable (x) on a dependent variable (y) differs as a function of an additional independent variable (z) (Baueur and Curran 2005). Interactions terms are multiplicative. For e.g., consider the BMI, body mass index, it consists of weight and height that means there is an interaction between weight and height. The initial claim has been that these variables were not listed in the 12–18 variables considered to predict great deal of behavior. It is proposed that these may be largely accounted for by examining the interaction among these 12–18 variables (Commons and Adhikari 2015). In Eq. 1, the first line is the simplified form of linear regression followed by the two way interactions. Next, three way interactions follow and so on where, each additional interaction is simply added to the previous term. Equation 2 presents the

actual total possible multiple regression equation with all the interaction terms (Commons and Adhikari 2015; Commons 2001).

Like mentioned previously, mindfulness is based on experiential source of knowledge. The study of mindfulness is complicated by the wide range of experiences that an individual describes which is guided by their own perception, introspection, memory, and testimony. Hence, as a multifaceted concept with varying phases, it is very important to study the components and phases empirically. The Mindfulness-Based Training Component (MBTC) is discussed next.

Mindfulness-Based Training Component (MBTC)

MBTC is related to behavioral training procedures. It is the experimental and clinical approach to understanding human behavior and formulating interventions to improve human conditions. MBTC helps increase one's clarity and equability. Clarity is the ability to keep track of constituents of one's sensory experiences as they arise in various groupings, moment-by-moment. Equability is one's attitude of gentle matter-of-factness with regard to one's sensory experience (Young 2006). To sum, mindfulness training helps train one's nervous system to know it better and interfere less with itself. Next, the proposed input and output variables are discussed to understand the effectiveness of MBTC.

Carmody and Baer (2008) found that meditation practice time was a significant predictor of decrease in psychological symptoms. The proposed independent variable or input variable (IV) was the total formal practice times for various mindfulness practices like (a) body scan, (b) sitting meditation, and (c) yoga. The proposed meditating variable was the degree of change in mindfulness from pre-to-post intervention and created by summing the pre-post change scores for the (a) observing, (b) acting with awareness, (c) nonjudging, and (d) nonreactivity facets. The proposed dependent variable or output variable (DV) was the three meditation analyses pre-post change scores for psychological symptoms. The IV, mediator and DV were significantly intercorrelated. Like Carmody and Baer (2008), we propose the independent or input variable (IV) as the total formal time of training and practice. We propose the dependent variable or output variable (DV) as the attainment of the training components assessed through a series of survey questionnaires. The five behavioral components of mindfulness-based training are (a) decentration training, (b) perception and reality, (c) value of calm, (d) anxiety and being in the moment, and (e) acceptance of mortality.

(a) **Decentration Training**

Piaget and Cook (1952) in his theory of cognitive development found that children move from egocentric-self-centered world to a world shared with others. This is called decentration. For Piaget, cognitive development involved a series of decentration in which the child eventually realized that the universe did not really

revolve around them. Through the development of decentration skills, older children start to be able to pay attention to more than one thing at a time. This concept of decentralization is also applied to the domains of social identification and interpersonal relationships. Mature personal relationship necessitates an ability to see others as having their own distinctive requirements and points of views and accepting them for who they are.

Through decentration training, an individual learns to see that he/she is a part of the world rather than the world being only about him/her. Decentration training encourages taking multiple perspectives by including the ability to pay attention to multiple attributes of an object or situation. Eventually, the individual learns to proceed from an initial individualism and egocentrism to an advanced reality and to decentered ways of thinking. Buddhists do not believe that they are center of the universe, but rather a part of it. The training includes the ability to move beyond identifications with (a) family, (b) clan, (c) religion, (d) class, (e) politics, and (f) nationality and to see other groups and cultures as having equal rights and values. These are not single but composite variables and are used in their everyday sense. Each of these indicators alone does not provide adequate information but, overall they represent the more complex system.

(b) **Perception and Reality**

Perception is the belief structure built upon the information. Reality is the true state of things. Through this training, one learns to see things as they really are and avoids paying attention only to incidents that support their beliefs. Being aware of perceptions as distortions or even a complete misrepresentation is encouraged. Further, perceptions are encouraged to be corrected so that it gets more and more united with the reality.

As people learn to attend to situations as they really are, they begin to respond more adaptively. For example, a mindful attention may improve one's accuracy at predicting their emotional states that is emotional forecasting. It has beneficial effects on regulating emotions. This also lowers judgmental self-talk. Lowered self-talk may facilitate effective behavior by minimizing irrelevant, if not disturbing, thoughts that use attentional and cognitive resources which can be directed toward the situation at hand.

(c) **Value of Calm**

Mental calm is the state of not showing feelings of (a) nervousness, (b) anger, or (c) other emotions. In a speculative model, quantum mathematician at Stanford calculated that current effect of four thousand calm minds would be seen in directly calculable 25 percent drop in violent crimes (Koopman-Holm et al. Koopmann-Holm et al. 2013). An individual is taught to calm self through meditational practices. Calm states abridge attention to one's environment and acceptance of one's emotions. An individual starts by learning how to relax and focus the mind in meditation. Every time people practice mindfulness they strengthen their ability to

focus and relax. With continuous practice, one can relax and focus the mind quickly and deal with stressful everyday situations.

(d) **Anxiety and Being in the Moment**

Mindfulness-based intervention therapy is a promising treatment for treating anxiety disorder and mood problems in clinical population. Psychologists at Harvard University through their study with 2250 volunteers found that reminiscing, thinking ahead or day dreaming tends to make people more miserable and anxious (Killingsworth and Gilbert 2010). Through mindfulness training, individuals learn how not to be so anxious in the moment. Further, slow and deep breathing involved in mindfulness training may alleviate bodily symptoms of distress by balancing sympathetic and parasympathetic responses. With this training, (a) one learns how to attend to what is happening in the moment; (b) be aware of the emotions at the moment, and (c) be able to work with those emotions.

(e) **Acceptance of Mortality**

People tend to be heavily interested by the fear of their death often leading to irrational fear and anxiety. Terror management theory is a part of mindfulness practice that teaches one that death is a part of life (Creswell et al. 2012). People often tend to act defensively to reminders of death including (a) worldview defense, (b) self-esteem striving, and (c) suppression of death thoughts. Mindfulness-based training is shown to predict less suppression of death threats. An individual learns to accept that one is just renting everything while they are in this world. This will elevate one's gratitude for life and learn to recognize and accept that nothing is forever.

Next, perceived benefits of mindfulness-based interventions are discussed.

Perceived Benefits of Cultivating Mindfulness

Initially known as an element of Buddhist culture, the concept of mindfulness has received in more recent times, alleviating attention in both scientific communities and lay communities as a means to combat with a vast variety of physical and mental disorders (Chiesa 2013). Cultivating mindfulness leads to varied significances: (a) a greater consideration to one's environment, (b) more openness to new information, (c) creation of new categories for structuring perceptions, and (d) enhanced awareness of multiple standpoints in problem-solving. Regular practice of mindfulness is believed to reduce anxiety and decrease emotional reactivity in the presence of unpleasant situations. Numbers of behavioral and self-reported data are supported by research in emotional neuroscience showing that mindfulness increases brain instigation in areas associated with positive emotion (Davidson et al. 2003). Cultivating mindfulness is also useful in late life to ensure emotional and cognitive well-being (Ficco and Mallya 2015).

Mindfulness and Happiness

Kahenman and Deaton (2010) identified happiness as the inverse of suffering; the less pain, anxiety, and depression one has, the happier one is. Killingsworth and Gilbert (2010) found that income, education, gender, and marriage had no particular strong effects on happiness. Rather, they found that happiness was more about being mindful, that is paying attention to moment to moment major situation in our lives. However, 47 % of the time an average American mind is wandering and not giving attention to what they are doing. Mind wandering is the experience of thoughts not remaining in a single topic for a long period of time. Research has shown a positive association between mind wandering now and being unhappy short time later (Killingsworth and Gilbert 2010). Some researchers agree that being attentive to moment to moment major situations in our lives can lead to a fulfilled life and avoid mood and stress-related disorders. How mindfulness helps in the treatment of mood related disorders is discussed next.

Mindfulness-Based Intervention in the Treatment of Mood Disorders

Mindfulness-based interventions have shown effectiveness in the treatment of several mood and anxiety disorders by primarily altering two stress processing pathways in the brain. Increasing data from neurobiological and neuropsychological studies shows that medication-based mindfulness-based intervention is related to substantial changes in brain function. These are indicative of improved levels of attention, memory, and executive functions of a favorable impact on sleep and cortisol secretion as well as of reduced emotional activity and enhanced emotional balance (Chiesa 2013). Mindfulness increases the recruitment of prefrontal regulatory regions that may inhibit activity in stress processing regions (Creswell et al. 2012). Stress is an important trigger for posttraumatic stress disorder and major depressive disorder. The mindfulness practice Stress Buffering Hypothesis provides that mindfulness lessens stress appraisals and reduces stress-relativity responses (Creswell and Lindsay 2014). Mindfulness-based intervention training has been shown to efficiently encounter experiential escaping strategies which are attempts to modify the intensity or frequency of unwanted internal experiences (Creswell and Lindsay 2014). Mindfulness also reduces the reactivity of central stress processing regions responsible for signaling peripheral stress response flows.

Over the previous decade, some of the first “introspective neuroscience” studies have appeared in the literature and started unloading how mindfulness might affect not only our brains but our stress-related physiology (Kennard et al. 2008). Mindfulness-Based Cognitive Therapy (MBCT) is a psychological therapy designed to aid in preventing the relapse of depression, specifically in individuals with major depressive disorder. In a study with forty-six youths who either received

6 months of continued antidepressant medication management or antidepressant plus relapse prevention (MBCT), the researchers found that those who received medication management plus relapse prevention had significantly lower risk for relapse than those who only received medication (*hazard ratio* = 8.80) (Kennard et al. 2008).

In a different study, Marines who received the mindfulness training intervention showed lower concentrations of neuropeptide Y (a marker of autonomic system activation) after stress injection, which was significantly correlated with heart rate during response and recovery period (R^2 = 0.25) (Brewer 2014). By training soldiers how to monitor their own bodies for autonomic activation and use mindful awareness to get this activation down efficiently and appropriately, they can learn to work adaptively in situations such as stress inoculation and combat. This also leads to both increasing their dynamic response range and preventing them from burning out during prolonged stress exposure (Brewer 2014). The researches on the connection between mind and brain pathways show some significant effects on the treatment of mood and stress-related disorders. However, there has been very limited research to see if the connection between mind and genes exists.

Change in Future Genetic Stage?

There still remains a dilemma to how much connection exists between mind and genes. If the genetic scheme that we received were to be fixed, there would be no mind-gene connection. If the idea of self-directing evolution that is the brain activity responding to genes is someday shown to be true, this would mean that we would be able to take more control over our genetic story. Further, we will also be able to affect our future generations. Nonetheless, the benefits will require self-awareness and mindfulness.

If one takes into consideration the growing evidence about the scientific, psychological and neurobiological correlates of current mindfulness-based interventions, it is surprising how significantly lower effort has been given by western psychology toward agreement about an unambiguous operationalization of mindfulness. In fact, significant differences still exists among different definitions of mindfulness (Chiesa 2013). As a result, the extents of the effectiveness of the mindfulness-based interventions only represent unique heterogeneous aspect and not a cumulative benefit of mindfulness. However, in order to understand the concept of mindfulness, how the intervention works and what form of intervention works, it is very important to come to a standard consensus on mindfulness and study it empirically. Further, it is important to understand that mindfulness is not completely avoiding future thoughts. One can be mindful, plan, and work for the future while not stressing out by what future holds.

Appendix 1

See Fig. 1.

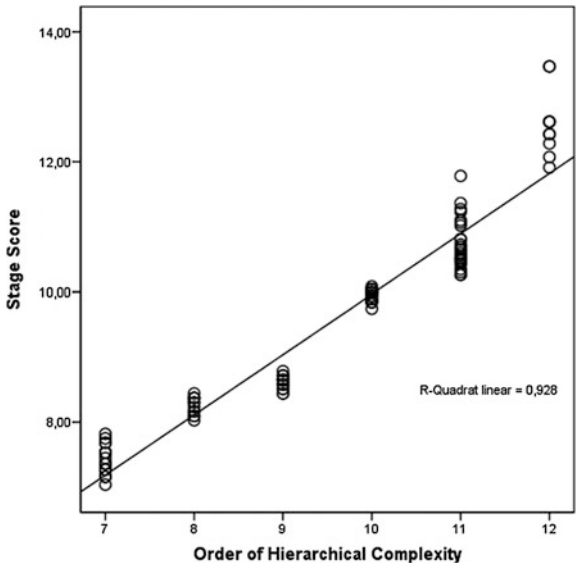

Fig. 1 The *Order of Hierarchical Complexity* of the tasks predicted the stage of performance

Equation 1

$$\begin{aligned} y = {} & \beta_0 + \beta_1 x_1 + \ldots. \\ & + \beta_m x_i x_j + \ldots. \\ & + \beta_n x_1 x_2 x_3 + \ldots. \\ & + \beta_o x_1 x_2 x_3 + \ldots. \\ & + \beta_p x_1 x_2 x_3 x_4 + \ldots. \\ & + \beta_q x_1 x_2 x_3 x_4 x_5 + \ldots. \end{aligned}$$

Equation 2

$$\begin{aligned} y = {} & \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \\ & + \beta_7 x_1 x_2 + \beta_8 x_1 x_3 + \beta_9 x_1 x_4 + \beta_{10} x_1 x_5 + \beta_{11} x_1 x_6 \\ & + \beta_{12} x_2 x_3 + \beta_{13} x_2 x_4 + \beta_{14} x_2 x_5 + \beta_{15} x_2 x_6 \\ & + \beta_{16} x_3 x_4 + \beta_{17} x_3 x_5 + \beta_{18} x_3 x_6 \\ & + \beta_{19} x_4 x_5 + \beta_{20} x_4 x_6 \\ & + \beta_{21} x_5 x_6 \\ & + \beta_{22} x_1 x_2 x_3 + \beta_{23} x_1 x_2 x_4 + \beta_{24} x_1 x_2 x_5 + \beta_{25} x_1 x_2 x_6 \\ & + \beta_{26} x_2 x_3 x_4 + \beta_{27} x_2 x_2 x_5 + \beta_{28} x_2 x_3 x_6 \\ & + \beta_{29} x_3 x_4 x_5 + \beta_{30} x_3 x_4 x_6 \\ & + \beta_{31} x_4 x_5 x_6 \end{aligned}$$

References

Alexander, C. N., Druker, S. M., & Langer, E. (1990). Introduction: Major issues in the exploration of adult growth. In C. N. Alexanader & E. Langer (Eds.), *Higher stages of human development: Perspectives on adult growth* (pp. 114–136). New York, NY: Oxford University Press.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27–45.

Bauer, D. J., & Curran, P. J. (2005). Probing interactions in fixed and multilevel regression: Inferential and graphical techniques. *Multivariate Behavioral Research, 40*(3), 373–400.

Brewer, J. (2014, August). Mindfulness in the military. *American Journal of Psychiatry*, 803–806. doi:10.1176/appi.ajp.2014.14040501.

Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine, 31*, 23–33.

Chiesa, A. (2013). The difficulty of defining mindfulness: Current thought and critical issues. *Mindfulness, 4*, 255–268.

Commons, M. L & Adhikari, D. (2015, June). Components of Mindfulness. Presented at the 30th Annual Symposium for the *Society for Research in Adult Development*, Salem, Massachusetts.

Commons, M. L., Goodheart, E. A., Pekker, A., Dawson, T. L., Draney, K., & Adams, K. M. (2007). Using Rasch scaled stage scores to validate orders of hierarchical complexity of balance beam task sequences. In E. V. Smith, Jr. & R. M. Smith (Eds.), *Rasch Measurement: Advanced and Specialized Applications* (pp. 121–147). Maple Grove, MN: JAM Press.

Commons, M. L. (2001). The notion of events and three ways of knowing: Problems with mentalistic explanations, freewill, self, soul, and intrinsic motivation. Retrieved from http://www.dareassociation.org/Papers/Commons2001new.pdf.

Creswell, J. D., & Lindsay, E. K. (2014). How does mindfulness training affect health? A mindfulness stress buffering account. *Current Directions in Psychological Science, 23*(6), 401–407. doi:10.1177/0963721414547415.

Creswell, J. D., Irwin, M. R., Burklund, L. J., Lieberman, M. D., Arevalo, J. M., Ma, J., et al. (2012). Mindfulness-based stress reduction training reduces loneliness and pro-inflammatory gene expression in older adults: A small randomized controlled trial. *Brain, Behavior, and Immunity, 6*(7), 1095–1101. doi:10.1016/j.bbi.2012.07.006.

Davidson, R. J., & Kaszniak, A. W. (2015). Conceptual and methodological issues in research on mindfulness and meditation. *American Psychologist, 70*(7), 581–592.

Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S., & Sheridan, J. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 65*(4), 564–570.

Fiocco, A. J., & Mallya, S. (2015). The importance of cultivating mindfulness for cognitive and emotional well-being in late Life. *Journal of Evidence-Based Complementary and Alternative Medicine, 20*(1), 35–40. doi:10.1177/2156587214553940.

Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science, 6*(6), 537–559. doi:10.1177/1745691611419671.

Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the National Academy of Sciences of the United States of America, 107*(38), 16489–16493. doi:10.1073/pnas.1011492107.

Kennard, B. D., Emslie, G. J., Mayes, T. L., Nightingale-Teresi, J., Nakonezny, P. A., Hughes, J. L. et al. (2008). Cognitive-Behavioral therapy to prevent relapse in pediatric responders to pharmacotherapy for major depressive disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, *47*(12), 1395–1404. http://doi.org/10.1097/CHI.0b013e31818914a1.

Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science, 330*(6006), 932. doi:10.1126/science.1192439.

Koopmann-Holm, B., Sze, J., Ochs, C., & Tsai, J. L. (2013). Buddhist-inspired meditation increases the value of calm. *Emotion, 13*(3), 497–505. doi:10.1037/a0031070.

Langer, E., Chanowitz, B., Palmerino, M., Jacobs, S., Rhodes, M., & Thayer, P. (1990). Nonsequential development and aging. In C. N. Alexanader & E. Langer (Eds.), *Higher stages of human development: Perspectives on adult growth* (pp. 114–136). New York, NY: Oxford University Press.

Langer, E. J. (1989). *Mindfulness*. Reading, MA: Addison-Wesley.

Leary, M. R., & Tate, E. B. (2007). Commentaries: The multi-faceted nature of mindfulness. *Psychological Inquiry, 18*(4), 251–255. doi:10.1080/10478400701598355.

Piaget, J., & Cook, M. T. (1952). *The origins of intelligence in children*. New York, NY: International University Press.

Shapiro, S., Oman, D., Thoresen, C., Plante, T., & Flinders, T. (2008). Cultivating mindfulness: Effects on well-Being (English). *Journal of Clinical Psychology, 64*(7), 840–862.

Young, S. (2006). What is mindfulness? Retrieved from http://www.shinzen.org/Retreat%20Reading/What%20is%20Mindfulness.pdf.

Whitfield, H. J. (2006). Towards case-specific applications of mindfulness-based cognitive-behavioral therapies: A mindfulness-based rational emotive behavior therapy (English). *Counselling Psychology Quarterly, 19*(2), 205–217.

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Michael Lamport Commons does research and teaches full time in the Department of Psychiatry, Beth Israel Deaconess Medical Center, Harvard Medical School. People report his introduction of the Model of Hierarchical Complexity (1984a, b; 1998) began a revolution in developmental theory. A milestone accomplished from 2004–2007 formalized this with mathematically based axioms, resulting in a cross-age, cross-species, cross-cultural, cross diagnosis general theory of task complexity measurement (Commons et al. 2007).

With Patrice Marie Miller, he has published and appeared on international and national television on the importance of attachment parenting and co-sleeping, attachment, and its relationship to the development of emotional regulation, the lack of which results in attachment disorders and therefore personality disorder.

Michael has been a part of some renowned companies. One of those is Dare Association Corporate. Dare Association is an independent, not-for-profit organization that supports endeavors in arts and sciences—one of which is mindfulness. Dare supports and encourages the accessibility, integration and application of the practices and the principles of mindfulness, awareness, compassion, and wisdom in all aspects of life.

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Erratum to: Mindfulness in Action: The Emergence of Distinctive Thought and Behavior

Robin R. Vallacher, Matthew S. Jarman and Steven S. Parkin

Erratum to:
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DOI 10.1007/978-3-319-30782-4_8

The original version of the book was inadvertently published without the following updated corrections:

In Chapter 8, the sequence of author names should be corrected to "Robin R. Vallacher, Mathew S. Jarman, Steven S. Parkin" and biographies of the authors "Matthew S. Jarman, Steven S. Parkin" should be added.

The erratum chapter and the book have been updated with the changes.

The updated original online version for this chapter can be found at http://dx.doi.org/10.1007/978-3-319-30782-4_8

S.M. Fatemi (ed.), *Critical Mindfulness*, DOI 10.1007/978-3-319-30782-4_14

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Note: Page numbers followed by *f* and *t* indicate figures and tables, respectively

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