Chapter 16
Navigating the Ideology of Creativity in Education

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Abstract A growing number of scholars have come to see creativity, not as a trait or force or process, but as ideology – a set of seldom questioned values and assumptions about individuals and change that characterizes our time while unifying and reinforcing other ideological concepts, such as individualism and neophilia. What does this ideology look like in education? Can educators manage its impact, and even influence its meaning? In other words, inevitably working from *within* our ideology of creativity, what moves are available once we are aware of the stakes?

This chapter provides two examples of how the ideology of creativity can affect education. Then potential next steps in managing the ideology and influencing its development are proposed: adopting frameworks that promote participatory creativity, ensuring that analysis of complex systems is taught effectively and studying famous creative people with a broader social lens. This is a suggestive, not comprehensive, list. A form of creativity itself, this work will have to emerge from the complex interactions that constitute, maintain and drive both creativity research and education. More important than any specific recommendation, though, is awareness of the ideology – being attuned to the issues and discussing them.

16.1 Navigating the Ideology of Creativity in Education

A former graduate student contacts her professor (the author), a specialist in creative development to ask advice concerning her daughter. The teenager is a straight-A student and loves school. Her mother has been called to a special teacher conference, though, because the girl does not perform well during brainstorming sessions and, overall, her projects are not considered sufficiently creative. As a result of the conference, the mother and daughter are upset about the "poor performance" and wondering how to "help" the girl.

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Similarly, one of the respondents to E. Paul Torrance's longitudinal study on divergent thinking reported hating to receive the follow-up questionnaires as an adult. (The study has currently tracked for 50 years a portion of the elementary school students who took Torrance's divergent thinking tests from 1958–1964.) This woman had earned a PhD and two post-doctoral fellowships and worked as a scientific researcher. She had solved difficult problems in her field. As a child, though, she had found the divergent thinking tests frustrating and, in spite of her success, continued to feel insecure because she considered herself "very uncreative" (Torrance 2002, p. 2).

A successful entrepreneur comes to the author seeking advice. He made his fortune in an industry not related to education. He now wants to turn his attention to changing education through technology – making it creative! During the discussion, he explains that he has a diagnosed learning disability and never finished his own education. His goal is not to help schools simply accommodate students who might be challenged like him but to revolutionize education writ large. (There have been multiple versions of this kind of revenge on education discussion over the years.)

*An article describing the DIY (do it yourself) educational movement, a project-based educational approach, quotes a psychologist as bemoaning the fact that current education does not teach children how to make things but instead how to be "*scholars *in the narrowest sense of the word, meaning someone who spends their time reading and writing. Of course, most people are not scholars. We survive by doing things"* (Frauenfelder 2010, p. 44).

16.2 Creativity as Ideology

These stories reflect assumptions that everyone should be creative and, as expressed in much of the overall discourse on creativity, the more creativity the better. These assumptions have come with implicit, and often explicit, contempt for those who are not obviously creative, such as "scholars" or non-creative good students, virtuosos or historians – the people who maintain standards so that there is something for creative people to change. One is reminded of the Kurt Vonnegut (1990) quote: "Another flaw in human character is that everybody wants to build and nobody wants to do maintenance" (p. 238).

A striking aspect of these stories is how, without reflection, they make sense in the current rhetorical *zeitgeist.* The intelligent mother with her honors-student daughter did not react by laughing in the teacher's face. Why would an education system try to make the best students into failures? Somehow, not being sufficiently creative – measured in part by brainstorming participation! – seemed ominous and dangerous. (See further discussion of the danger of making students into failures in the quest for creativity in the classroom in Clapp 2017.)

First-glance validity may be the most striking aspect of the last vignette as well. The psychologist is quoted as juxtaposing scholarship to how most people learn,

throwing in human survival for good measure. The descriptor of a scholar as "someone who spends their time reading and writing" seems reasonable until one is reminded of what daily life is actually like in the twenty-first century. Even 8 years ago, huge numbers of people, from executives to managers to clerical staffs, spent most of their days in front of screens *reading and writing*. Indeed, more than ever before in history, across the planet people were involved daily in the even more "scholarly" activity of searching for, evaluating and disseminating information. Of course, project-based learning is often a crucial aspect of good education, but juxtaposing it to scholarship does not make sense for education or for the world today.

There is a strong whiff of ideology in these examples. At least, they seem ideological in the everyday sense of powerful and unquestioned assumptions about how the world works which, at least at times, serves as smoke screen for questionable ends. Creativity has also become ideological in its punch. None of these stories would have such broad implications if creativity was an isolated construct, like say depth perception or technological aptitude. Instead, creativity is an umbrella term, linking many of today's powerful beliefs and social values, including individualism, motivation, fulfillment, risk taking, openness, play (spontaneity), market economics, social change, success, fame, and so on.

Not surprisingly, a growing number of scholars have come to see creativity as ideology. At the turn of the twenty first century, Weiner (2000) laid out the case for the historical development of the idea of creativity as ideology and asked what can come "beyond creativity." Well established creativity researchers, Runco and Albert (2010) have proposed that creativity can be seen as rational science or as ideology. Although psychology has usually embraced the rational science model, social displacements and resulting misery has led to the model of creativity as ideology. Others (e.g., Foucault, 1969/1998; Raunig et al. 2011; Rehn and De Cock 2009; Pope 2005) have analyzed the ideological functions of creativity from a number of critical positions. In what may be evidence of the growing power of the ideology of creativity, Pope (2005) has even argued for re-appropriation (with revisions) of the construct of creativity into critical theory rooted in Marxism.

16.2.1 What Kind of Ideology?

There is not room here to explore fully how the construct of creativity fits into the history of the equally complex concept of ideology and the current debates among ideology scholars.[1] Some consideration of how creativity can be ideological will be

[1] Freedan (2003) has argued that, based on convention, the term *ideology* proper should be limited to traditional ideologies: communism, socialism, liberalism, conservatism and fascism. The argument presented here obviously differs from that position, given the number of scholars who have talked about creativity as ideology. In addition, there does not seem to be another word that works as well in capturing the pervasive nature of unquestioned assumptions to so many aspects of life; the broad network of values, ideas and practices that fall under creativity; its use (in some contexts) as smokescreen for oppression as discussed by Weiner (2000), and its power within a particular period of time.

helpful in thinking about its functions in education, however. Is "creativity" a false class consciousness as Marx and Engels (1845/1998; Marx 1867/2010) used the term? In other words, does today's unquestioned enthusiasm for creativity lead to putting the onus for "recreating oneself" on the individual when a larger economic system puts her out of work in midlife? Pride in creativity and expectations of it would then deflect blame, preserving oppressive economic systems.

Or is the concept of creativity less encompassing: a powerful but more restricted idea that can function within and across ideologies? Everyone seems to think people should be creative but disagree about what that means. This is the conceptual umbrella function. Free enterprise advocates like to emphasize entrepreneurial individualism and risk taking. Social activists like to emphasize possibilities for changes in social values. People interested in spiritual development like the creativity discourse on fulfillment. Parents like the emphasis on child-like play as confirmation their children's value.

Alternatively, is the idea of creativity even more encompassing? Mannheim (1936/1954) described a paradoxical condition of ideology: any research works within ideologies so even the analysis of ideology is a product of ideology. In other words, this analysis of creativity as an ideology that carries unquestioned assumptions comes from within the influence of that very ideology which also promotes questioning assumptions. Indeed, I am not arguing that we can eliminate ideology, only that, by being more aware of its ideological functions, we can make the idea of creativity more relevant to our lives and to the challenges of eduction. In other words, this exercise turns creativity on itself.

Any of these positions is defensible and debatable. The point here is not to choose but to keep the possibilities in mind as we, first, quickly consider the historical development of our ideas of creativity and then specifically examine their functions in education.

16.2.2 History

But wait! Why would creativity be ideological? Is it not what distinguishes humanity? Part of our species like language and tool use? Yes and no. Using symbol systems, making and interpreting cultural products and developing new technologies – obviously, none of that is new. The idea of a near-magical *thing* within people and groups that is always good and promotes change *per se*, standing in opposition to conventions and traditions; a *force* that must be identified, nourished and channeled in order to fulfill lives, drive economics and save humanity; a *value* that does not just make room for different perspectives but also glorifies "rugged" (alienated) individualism; an *imperative* for everyone to look for value in the new – none of that is universal.

Most people do not realize how new and rapidly changing today's views of creativity are. *Creare* is a Latin verb, and scholars have traced key roots of the concept to European and American history (Mason 2003; Pope 2005; Weiner 2000). In spite of the Latin origin and the Romans' many innovations, however, they placed greater

emphasis on tradition than novelty, and, in general – like the ancient Greeks – saw inspiration as coming from outside the individual, from the muses or gods. During the European Middle Ages, in most places it would be considered blasphemous to say that people created things. Only the Christian God created things. People made (*facere*) things. In the European Renaissance, the adjective *creative* started to be applied more liberally to people. Still, being creative was looked upon with suspicion until the later nineteenth century (Mason 2003; Weiner 2000). At that point, a number of related and reinforcing concepts and values emerged together in Europe and America, including increased interest in imagination, individualism, market economics, globalization, cultural analyses and… creativity.

After World War II as the United States with its focus on individualism and market economics became globally dominant, the idea of creativity grew alongside. At that time American psychology took on the study of creativity with more vigor than it had in the past. In 1950, J. Paul Guilford, outgoing president of the American Psychological Association, called for the psychological study of creativity, positing the idea of divergent thinking.

The mid-twentieth century was also, of course, the beginning of the Cold War. It is easy to forget the levels of American social anxiety that came with the realization that, in nuclear weapons, humanity had the power to destroy itself. Then the U.S.S.R. tested its first nuclear bomb in 1949. In this context Guilford's 1950 speech justified the study of creativity as a means to identify and properly *educate* superior American leadership in government and business.

Later, Carl Rogers and Abraham Maslow – humanistic psychologists – would explicitly justify the need for greater creativity as a Cold War strategy (Hanchett Hanson 2015, in press). Both men believed that there was one drive in life, to self-actualize, and self-actualization was strongly linked to creativity. For them, as well as other mid-twentieth century psychologists (e.g., Gruber 1989; May 1989), promoting creativity was also necessary for human survival in the nuclear age.

Education was central to the humanistic vision. Maslow (1971/1993) believed that with the right education, emphasizing creativity, a new kind of superior human being could be engineered. This "Heraclitian" human (p. 57) would produce continual change and be infinitely adaptable to it. He and Rogers (1954, 1961/1989, 1969) believed, as Guilford had argued, that promoting creativity in American education would give the United States the upper hand in global politics. One of the leading proponents of student-centered education, Rogers (1961/1989) argued that this kind of education could both to win the Cold War and the finally make America the world's leading intellectual force after so many years of dominance by European intellectuals. The logical problem with Rogers argument was that most of those European leaders had come from relatively rigid and demanding education systems, far from the student-centered approaches Rogers advocated.

Taken together, this discourse on creativity tended to present a classic double-bind: you cannot resist the power of creativity as an inevitable, natural condition of all humans, but to survive you must put all of your energy into giving it to more people. In spite of the apparent contradiction, note that the overall ideological drift: novelty was absolutely essential to solving problems. The problems were now huge and threatening humanity itself and so must be the novel solutions by implication.

Past experience, the lessons of history, traditional values and established conventions were devalued – and often explicitly vilified – as sources of needed solutions. Not surprisingly, education itself was in the cross-hairs. For Rogers and Maslow, received knowledge would keep the individual from experiencing the world as continually new in his or her own unique perspective. Less rhetorically extreme, the ideation theorists (divergent thinking and problem solving) were, nevertheless, working toward similar ends. Insisting that education promote creativity and defining it as divergent thinking inevitably meant moving from depth of knowledge to breadth of ideation with "idea" operationally defined as a brief phrase on a test. For the problem-solving researchers, the expectations of the world that came with experience and received knowledge would obstruct the ability to solve trick insight problems in experiments.[2]

In general, the emphasis on the individual constantly overcoming experience and learning – "thinking outside the box" – does not align with either the mission of education or case research on those who have done creative work (e.g., Gruber 1981; Hanchett Hanson 2005; Wallace and Gruber 1989). Weisberg (2006, 2011; Weisberg and Hanchett Hanson 2013) who has studied creativity through case studies as well as in experimental settings has concluded that creative people think specifically "inside their box" of experience and skills. What seems surprising to others ("outside the box") is the result of a long process of learning. This is in keeping with developmental points of view that define creative development as the construction of a distinctive point of view through experience, including education (Gruber and Wallace 1999). Furthermore, that experience is necessarily embedded in sociohistorical context (Gruber 1981, 2005; Hanchett Hanson 2015; John-Steiner 2015; Moran and John-Steiner 2003; Vygotsky 1930/2004). As will be described later, synthesizing the developmental and sociocultural perspectives, some creativity theorists have moved beyond the individualist assumptions. Nevertheless, the influence of the earlier lines of research have been pervasive and persistent, and divergent thinking tests are still used in research and education (see discussion, Hanchett Hanson 2015).

As both developmental and sociocultural frameworks would predict, however, there is also continuity between the old creativity views and the new ones. To draw lines between them too starkly would be a mistake. Many theorists working with humanistic clinical views, divergent thinking researchers and problem-solving theorists have readily acknowledged the complexity of life. The psychological construct of creativity, for all of its benefits and dangers, has not been built by naïve people or knee-jerk ideologues. If anything, inspired by their topic, creativity specialists have tended to be particularly socially aware, courageous and innovative (Hanchett Hanson 2015).

Many researchers across theoretical approaches have also acknowledged the crucial role of audiences, in addition to the individual thinker (e.g., Amabile et al. 1996; Beghetto 2016; Corazza 2016; Kaufman and Beghetto 2009; Plucker et al. 2004;

[2] See review of problem-solving and divergent thinking research in Weisberg (2006). For more in-depth discussion of all of these theories in relation to ideology, see Hanchett Hanson (2015).

Stein 1953). At least in the definition of creativity value must be recognized; some have considered the related social dynamics. Some have noted the changing meaning of the construct of creativity (e.g., Amabile et al. 1996; Sawyer 2012) and/or its ideological history and applications (e.g., Runco and Albert 2010; Sawyer 2012). Recently, more serious discussion of the possibilities of "dark sides" of creative work and the attendant ethical concerns have begun (e.g., Cropley et al. 2010; Moran 2010; Moran et al. 2014).

Indeed, the history of the psychological debates about creativity is itself a study in the tensions – affordances and limitations – between the individual perspectives of the theorists and their social and historical contexts. At the same time, however, the extreme individualist and neophilic values embedded in the history of the concept of creativity have been hard to shake. It has taken some time to move the more realistic and complex views of creativity from the introductions and discussions of research papers to the more powerful crux of the research and findings.

There are several take-aways from this very abbreviated history.

- The idea of creativity as a personal, psychological or social force is not necessary to build great buildings, write drama, produce art or institute new political systems. Many societies that did not attribute creativity to people or highly value creativity produced such works.
- A cornerstone of creativity theory has been extreme individualism. Society and its norms, including education, may then treated as irrelevant or worse – threats – rather than the resources from which people create and to which they contribute.
- Another cornerstone has been privileging the value of change itself, anything new over the learned or the traditional – *neophilia,* not as a description of just a type of person but as a social value. For some theorists, this has extended to experience itself with the goal of every moment feeling entirely new.
- Neither presumed privileging of the value of change nor imperatives for everyone to become agents of change have been common across history or societies. These are distinctly Modern values that arose in Europe and America and have grown dramatically since the late nineteenth century.
- Today's concepts of creativity have clear and more recent ideological roots in mid-twentieth century politics. The ideological functions of the concept of creativity have, thus, emerged over time and continue to evolve.
- Finally, education has long been central to the discussion as both scapegoat and – once *changed* – as promise for the future.

16.3 The Ideology in Education

The ideology presents creativity as answer to a wide range of problems from economic stagnation to individual fulfillment. Much of the research, curricula and assessment techniques have then aimed at giving everyone more of this good stuff. For educators, the results can easily seem like yet another activity and set of

assessments in an already impossibly stretched day, not to mention yet another way for students to fail. What's more, teachers now have the daunting task of both teaching the rules and how to break them, often to a group of students with widely varying levels of understanding of those rules (math, grammar, spelling, scientific method, color theory and so on).

But what if educators took their cue from the broader controversies that have driven creativity research instead of the often reductive answers that some particular lines of research advocate? The history of the concept in psychology can be seen as a debate about the relationship of individual action to change. Do a few great individuals make history, or do socio-historical dynamics (*zeitgeist*) determine individual experience, ideas and actions? If such a dichotomy does not make sense, how do the dynamics between individual points of view and context work? Are the dynamics different in different times and places? Are they different in each case? Do they depend on the topic (domain)? How does one change affect later changes?

These are questions calling for education – questions that require in-depth knowledge of old and new ideas, as well as the circumstances of history; debates that call for critical thinking and logical argumentation, as well as synthesis of ideas, and concerns that, as the longstanding psychological deabtes have shown, are not easily resolved. These questions can help ground students' thinking across many topics including their own everyday experiences. In other words, presenting creativity as a series of questions, rather than an obvious and all-powerful answer, makes the concept both more realistic and more education friendly – and, frankly, more interesting.

What would this question-focused approach to creativity look like in education? There are almost endless examples, ranging from recognized controversies to very subtle assumptions. Consider two examples.

16.3.1 History Class

Let's start with an easy example. Every October in America there is a short cultural debate about the ethics of Christopher Columbus (e.g., Anderson 2015; Mach 2011; Shafer and Walsh 2017). Was he a bold and courageous explorer, a visionary who changed people's conception of the entire world? Or was he a ruthless and scheming slave trader who brought misery and death to the "New World"? A striking aspect of this controversy is that both sides usually assume that Columbus was exceptional – exceptionally bold or exceptionally cruel – and disproportionally responsible for the course of history. What if education changed the questions? How usual was he? What determined the impacts of his mistake: not finding a passage to Asia because he was wrong about how large the world was? (By the way, virtually all educated people of his day knew the world was round, Russell 1991.)

After all, Columbus could not have taken his voyage without the systems of beliefs, values, economics and technologies of the day, systems that involved millions of people, as well as his specific backers. Those systems were also key to

determining what the world subsequently did with his accidental discovery. In other words, as sociocultural creativity theorists have argued (Clapp 2017; Csikszentmihalyi 1997, 1999; Hanchett Hanson 2015; Glăveanu 2014; Sawyer 2012), *the field* both made the discovery possible and determined its subsequent meaning and application – even though Columbus also had a hand in both. Better history textbooks today discuss the systemic social and economic pressures that have influenced change, and the technological advances that contributed as well.[3] They also usually give Columbus, the man, a lot of attention, reinforcing his "great man" status. Even then, with the systems and great-man evidence side-by-side, the questions of creativity, sketched above, are often more implicit than explicit. This is, of course, where the teacher can enter the scene with assignments highlighting the question of the relation of a given individual to the historical systems in which the person lives and works. For the students, this line of analysis is more important than the debate over the character of a particular man from the fifteenth century. After all, they will not discover the New World but will participate in today's versions of those systems, which facilitate and apply many discoveries and new opportunities for better or worse.

16.3.2 Art Class

As previously noted, history examples are easy targets. The "great man" (usually men and usually white) views of creativity and history are closely aligned. The individualism and neophilia of the ideology of creativity is not just in the textbooks, and not just in history class, though. These views are deeply embedded in the ways we think about students and education. Consider an example from art class. If creativity happens anywhere, it should be in art, right? I regularly evaluate and consult to educational programs, and have worked with a number of excellent art programs. An experienced teaching artist in a highly respected program came to me concerned about a specific set of lessons she was teaching about architecture and community. She was exceptionally reflective about her own teaching and came to me to discuss the creativity of her students. In an activity she designed, third graders learned how

[3] For example, the chapter on the meeting of the Native American, European and African worlds in Houghton Mifflin's *The Americans* (Danzer et al. 2012) describes the social, economic and political conditions of these three civilizations in the fifteenth century. Attention is also given to naval technologies that allowed Europeans to undertake colonial expansion. There is even a boxed text juxtaposing positive and negative historical views of Columbus. At the same time Columbus is definitely the central focus of the changes that occurred. This balancing of systemic and individualistic views is a step in the right direction but also confusing to read. The description of European society makes Columbus seem like a common type of man of his times, looking for upward mobility in one of the only ways possible at the time – trade – when naval technologies made such navigation possible, nation states were rising competitively and his backers, the monarchs of Spain, were particularly ambitious. Then the pages and quotes devoted to just Columbus, as well as the point/counterpoint about his legacy, seem to indicate that he was, for better or worse, both extraordinary and *the* cause of the change.

to make block prints and then designed a print of a house. All of the block prints would be put on long sheets of paper to form the blocks of a city, like the communities the children knew in Brooklyn. The teaching artist was concerned that all of the house designs looked so much alike. Indeed, the students openly copied each other's designs. Should they not be more creative, producing different kinds of designs? How could she get them to be more creative?

In the real world, though, architecture goes through styles in which people influence one another and borrow from one another. An educated eye can look at a building and, usually, identify when it was built by the style of fenestration, the materials used, the decorative details and so on. Like other domains of knowledge, architecture is a social discourse in which practitioners influence one another as they build on, and borrow from history. Yes, each Victorian house, Brooklyn brownstone, Parisian apartment building, or Cape Cod cottage has its own specific distinguishing elements, but overall their *styles* rely on elements that the buildings have in common, borrowed from one another, taught and learned in schools of architecture. Even in postmodern architecture, which tends to take similar attitudes toward decoration and unexpected elements but not necessarily replicate forms, there were leaders (most prominently Venturi and Brown 1972; Venturi 1977) and followers – all doing creative work.

The point: instead of imploring each student to be original in relation to the other students in the class, the learning opportunity concerning creativity is to make the students aware of the processes by which *their style* of housing develops within the group – its antecedents in their experiences, the ways borrowing affects the style, as well as distinctive elements within the details of the designs. How is this small-scale creative system working, and how are individuals contributing to it? Who introduced specific elements? What inspired the ideas for those elements and how did they become part of the classroom style? (That discussion would include, of course, any designs that differ from the dominant style emerging in the class.) Why were some elements of design copied and others not? This kind of education helps students understand how actual creative systems work, how multiple people take on different roles in the process and how and why variations in style emerge. Most importantly, it gives students an experience of how to participate in – and contribute to – a creative system, as well as a framework for understanding that experience.

Again, this example highlights how pervasive the themes of individualism and neophilia are. This teaching artist was not some wild-eyed ideologue. She was simply working within the current ideology of creativity which is so often presented as simultaneously self-evident and scientifically based.

16.4 Potential Next Steps

How can any educators navigate such pervasive and powerful assumptions? Furthermore, might rejecting extreme individualism and the dichotomy of tradition and creativity move us toward social inflexibility and hyper-conformity, competitive disadvantage in international economics, an Orwellian dystopia and lives of despair? So much of the rhetoric coming out of the Cold War and justifying creativity

research for the last 60+ years have implied such dire consequences. Despite all of the work of psychology and sociology, neither history nor individual lives have proven predictable. Even in the United States where individualist views of creativity have been well integrated into business and self-help discourses, today there is little reason to believe that America is immune to autocracy and international competition or that Americans suffer less alienation and depression as a result. Indeed, it is possible that the expectations of creativity as panacea could make things worse by deflecting attention from meaningful policy debates and casting life's persistent hardships as failures to recreate oneself.

But what are the alternatives? As it turns out, there are already resources within creativity research and educational discourse that point toward the necessarily uncertain next steps in moving the ideology of creativity to a place that is more supportive of education. Again, I am not claiming that any of these moves will elminate ideology but that they can move us toward concepts of creativity can be more relevant to actual lives and to education.

16.4.1 Participatory Creativity

First, within the study of creativity new frameworks are emerging that emphasize complexity and participation as context for individual agency (Clapp 2017; Glăveanu 2010, 2014; Hanchett Hanson 2015). *The individual is not lost or denied*. Indeed, individual perspectives are crucial to creative processes. But neither is the individual wildly ideating in a social and material vacuum. These emerging perspectives do not, themselves, claim to be new. They are syntheses of older theoretical and empirical work on creativity, extensions of discourse rather than revolutions. They draw from well-established developmental theories of creative development (themselves extending the works of Vygotsky and Piaget), sociocultural approaches to creative system dynamics and distributed cognition views of the social, material and temporal distribution of thought. (For further discussion see the chapter I wrote with Edward Clapp in this volume). In spite of this traditional grounding, the participatory perspectives mark a turn in the evolution of creativity theory. They point toward…

- ***The affordances for change provided by history and tradition*** – ideas do not spring magically from the mind but come from complex interactions with the social and material environment. In other words, thinking is socially, materially and temporally distributed within its sociohistorical context. Creative producers (an alternative term to "creator" or "creative genius") build upon, recombine and apply to new contexts the received knowledge and practices of their times.
- ***The many roles in the creative process*** – many people contribute to the work, its evaluation and application. Teachers, collectors, reviewers, connoisseurs, gallery owners, editors, consumers and so on become part of the creative process. This is a realistic reorientation of the concept of creativity. When people do real creative work in the world, they are thinking about their inspirations, the current state of their discipline, what they want their work to mean and who will determine that meaning.

- ***Interactions with the material world*** – symbol manipulation in the head is only meaningful within the context of *actions* in the social and material world. Creativity is work (Wallace and Gruber 1989). Painters become painters by painting, writers by writing, researchers by researching. Yes, knowledge and thought in the purely cognitive sense is important but only *takes form* through interactions with the material world. Even the most basic creative thought is supported by material actors, such as sketchbooks, notebooks, computers, brushes, paints, laboratories and so on.
- ***The longer-term biography of the idea*** – framing inquiries into creativity as contributions to the ongoing development of even larger ideas foregrounds the historical context and antecedents of any given contribution, as well as the social and material processes for integrating the contribution. This technique is meant to put individual contributions into context and highlight the agency of the many individuals needed to bring about change. For example, as described in the chapter on participatory creativity in this volume, a teacher can frame a module as Henry Ford's use of the assembly line to revolutionize manufacturing or frame it as the history of the assembly line (biography of the idea) to which Ford was a contributor who applied the idea in a powerful way.

16.4.2 Teaching Complexity

Second, in relation to participatory theories of creativity, students need to be able to think about the workings of complex social and material systems. Here, creativity offers a distinct opportunity. Whereas common examples of complex systems, such as circuitry, traffic patterns or weather systems, might be familiar but still abstract, most student are already directly – and often passionately – participating in creative social systems. They already take up multiple roles as consumers and recommenders of music and movies, makers of youtube videos, students of music, critics of fashion, and so on. In so doing they are contributing to the complex processes of creative production, evaluation and dissemination. What a good entry point to help them become comfortable conceptualizing and analyzing complex systems!

Here, again, the goal is not new. Within education, there is growing focus on how to teach thinking about complexity. Research (Kuhn et al. 2015) indicates that, although the principles of simple causality are more or less innate in human development, thinking about complex systems with multiple causes and multiple effects often needs to be taught. Analyzing complex systems is listed in the often-cited twenty first century skills educational framework s (p21.org). State guidelines usually include provisions for analyses of complexity, although the complexity standards are not always prominent or clearly defined. Having some standards does not, of course, guarantee that the standards are sufficient or that they will lead to effectively teaching complex systems analysis.

There are also caveats to keep in mind. Remember the DIY example cited at the beginning of this chapter where project-based learning and scholarship were juxta-

posed. Project-based educational approaches can be very helpful in teaching complex systems. Without the "scholarly" work, though, these approaches can fall prey to *ad hoc* pragmatism. Students may learn what they need to for a given project but never get a larger view of (a) how what they are learning fits into broader domains of knowledge and (b) how and when to transfer the principles learned in one complex system to another.

16.4.3 Studying Creative Lives

So far, the emphasis has been on techniques that move the focus to the wide range of social and material actors, rather than the sole individual. The opposite approach – re-examining the famous individual – can be equally, if not more, powerful. A personal reflection here. One of the courses I teach is on case study method, using an expanded version of the evolving systems approach developed by Gruber and his associates (Gruber and Davis 1988; Gruber and Wallace 1999; Wallace and Gruber 1989). Students develop an extensive study of a famous individual's creative development. Each student chooses the person he or she will study and becomes immersed in that person's work and life story. From the beginning students are told that the method is designed to analyze creativity as a form of work in which individuals organize resources toward their emerging sense of purpose. That work is always specific to the sociohistorical context, and involves many people and material resources. It is *not* dependent on particular types of personalities or cognitive traits or universal processes. There is no trick to learn, but rather a developmental process to understand, a particular process that led to a unique point of view in a specific context. In spite of that presentation of the task, inevitably, about two-thirds of the way through the semester the students become agitated, and someone usually blurts out "I don't think creativity exists!" It is that hard for the students to give up the idea that creativity is either a magical trait to be identified or a formulaic process to be copied. After this short panic, everyone gets back to work and, in the end, most students say that the course is transformative. It changes how they think about creativity and development, as well as individual agency and social systems. It also gives a sense of empowerment – they see how many kinds of people can contribute with long-term work, if they know their questions and resources well and remain attuned to their own emerging sense of purpose.

There is no reason to wait until graduate school for these lessons. From at least middle school on, students are reading biographies of many of the same people that my graduate students are studying. True, such in-depth biographical analysis may not be explicitly written into curriculum standards, but it does not usually stand in opposition to them either. Many years of working in education have taught me that good educators are very creative.

16.5 Concluding Reflections: Dialogic Possibilities

The analysis of the ideology of creativity offered here is not a defense of all traditional education nor a retreat from the need to teach creativity. On the contrary, this is a call to address creativity more deeply in education. Nor is this a call for revolution. (The goal is not to overcome neophilia with something entirely new.)

16.5.1 Creativity Grounded in Education

The view of creativity advocated here is more complex than many concepts of creativity but arguably more realistic and, therefore, relevant to education. There are a few core premises. First, useful ideas do not come from getting outside of conceptual boxes, but reorganizing existing resources in processes of work and development over time. Education is, therefore, important. Second, received knowledge and socially recognized ideas and practices (traditions) are the alpha and omega of creativity – the resources that go into the work and the evaluation of the ultimate work. Third because of the dynamic nature of these social systems, meanings and practices inevitably change over time. Even the most orthodox traditions evolve, and many social practices are quite pliable. Therefore, the creative person does not have to lay siege to current ideas and practices but choose how to *participate* in change (help accelerate, slow, redirect etc.). To do so the student has to understand the current practices and meanings, causes and outcomes, well. Again, education comes to the fore. Finally, creativity occurs in distributed social and material systems over time. Individuals learn to take up many roles contributing to those systems. School itself is, thus, important. Whatever the learning formats and technologies, interactions are crucial – interactions among students, between students and teachers, between students and the world (technologies, artistic media and so on), as well as among teachers and administrators.

16.5.2 Ongoing Conversations

Within creativity research, the broader, participatory view advocated here has emerged from the foundations laid by previous approaches. Furthermore, dialogue between the older and newer views needs to continue. Most of the practices of the older, more reductive approaches can still have value even though the newer frameworks may shift how we see that value (Hanchett Hanson 2013). For example, based on the idea of divergent thinking, brainstorming was conceived as a way of magnifying ideational capacities through a group process. At first glance, it would seem that this widely used practice is in keeping with the principles of participatory creativity. After all, a group is producing the ideas, not an individual. Then decades of research that showed that brainstorming groups actually do not work that way. (In

experiments, the same number of people working individually almost always come up with more, better ideas than the brainstorming groups, Nijstad et al. 2003). Those findings might seem to argue against participatory views.

Just making a group process out of a purely ideation-focused concept of creativity does not make it participatory, however. The development and organization of the distributed thought processes are not taken into account. How the individual contributes to the group and how the group contributes to the individual's point of view are crucial aspects of the participatory views. Asking a group of strangers to ideate on a random problem (the experimental condition) is not. In real-world practice, though, brainstorming can be used to facilitate participatory creativity. Indeed, it usually does. Repeated brainstorming sessions over time in an organization or classroom can help the group *develop* understanding of the knowledge and viewpoints of each member, build a sense of connection and commitment among the members, prime the group to tackle new topics and build a sense of excitement and motivation (Baer and Garrett 2010; Hanchett Hanson 2013; Starko 2014). All of these contribute to the recognition and organization of resources for creative purposes.

This is just one example of how dialogue between the older and newer views can work. The more interesting questions will be, no doubt, more difficult and less obvious. For example, how to think about, value and accommodate exceptional abilities? Participatory views move us away from unreasonable rhetoric of making everyone a creative genius, but what about the… actual genius? How to manage such students or coworkers or social outliers is still undertheorized in the participatory views. Pushing back on questions like this is the crucial importance of dialogues of old and new in moving forward.

The approach advocated here is not revolutionary within education either. Indeed, almost everything discussed above is advocated and/or covered in part by most of today's curriculum standards. Making sense of the application of those standards in the everyday interactions that constitute education will also be a conversation, and not necessarily an easy one. Here we add the many voices of educational systems to the creativity theory dialogues. Complicating the conversation will be the ideological remnants of older but powerful twin pillars of creativity as ideology: extreme individualism and neophilia. As shown in the art class example, these assumptions can be pervasive and subtle.

Indeed, the key point here is not the recommendations. Yes, adopting the framework of participatory creativity, ensuring that analysis of complex systems is taught effectively and asking students to study famous creative individuals with a critical lens – these would all seem to be logical steps. More important than any specific recommendation, however, is awareness of how the ideology of creativity functions in education. Becoming attuned to the issues and beginning to discuss them are the first, crucial steps. A form of creativity itself, this *work* will have to emerge from many contributions and complex interactions, just as described by the participatory theorists.

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