The Forward Movement of Science: A Close Reading of Three Academic Articles

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Scientific knowledge is not meant to be a static understanding. It is dynamic, shifting, and changing as new and relevant information is brought forward. This essay is a close reading of three articles regarding creativity which have been impactful to the scientific community and our understanding of the science of creativity. It attempts to find common elements from those articles and how they pitch and share about their change to the scientific knowledge base.

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The rate and magnitude of change to our general scientific knowledge, technology, and being able to process and act on that knowledge seems to be growing exponentially. In his dated paper, Bourner (1998) makes a still relevant argument in which students have an increasing need to learn to be researchers. The scientific method is based on an evaluation of the logic of the methods and the ability and format to make critical responses (Andersen & Hepburn, 2016). The day to day implementation of the scientific method is all about iterative processes where the scholar gains new insight into a phenomenon, a discovery sheds a light into a new understanding of how something works or gathers more evidence of the existence of that phenomenon. While this is the nature of the day to day practice of a scientist, sometimes there is also a need to shift more underlying understandings of those phenomenons. When Galileo proposed that the world was round or Darwin that there is evolution that happens by the practice of natural selection, these concepts changed the fundamental direction of the scientific community. While all of these more transformational shifts are not as groundbreaking Galileo or Darwin, they are still overall shifts in the way that we think about a specific topic. This paper will look at three articles that address misconceptions in the study of creativity and look closely at their methods for their arguments.

Montuori and Purser (1995) set out to look at what they call the myth of the lone genius and look towards a reframing of individualistic creativity to a form the concept of social creativity. In the vein of that scientific method for evaluating the logic of methods and making critical responses, published in the same edition of the Journal of Montuori and Purser (1995) paper Hale (1995) published an argument towards the concept of the lone genius. Hale describes 17 individual characteristics of creative genius. Each one focused on the individual that can be considered important for persons to be able to demonstrate creative genius. As Montuori and Purser (1996) rejoinder describes their belief is that Hale had missed the mark on what their argument was. They were not arguing that the scientific knowledge around these characteristics had no relevance. It was more that there are other facets of the discussion of creativity that are important to be explored and that research is showing should be included in these views. This idea is that there is a social and connected aspect to creativity, with which seems to change and enhance the creative work of an individual. They exemplify these remarks by looking at the creativity that is demonstrated by a creative artist and the change in their body of work as they begin to work with groups. That this cooperative work "allowed the individuals to excel creatively" (p. 34). This argument and counter argument is a hallmark of the creative process and at minor level how changes are made to the scientific knowledge base.

Parts of an Academic Case

To understand the change that is being proposed concerning a viewpoint into creative studies and the social aspects of them, it would be useful to evaluate how Montuori and Purser (1995) built their case. To start building this case they start by providing historical context to their discussion describing the cultural and historical milieu to the social nature of creativity. Whenever there is a change that is being proposed to a concept or a way of understanding the world, there is a need to develop and case for how that has previously been described and understood. Without that context, any case

being made would be difficult to apply and understand what exactly the change would be proposing. In the same vein, bank statements provide a detailed list of the expenditures that have happened. While understanding your end balance might be a useful fact, it does not help you in changing your spending habits. It is the context of knowing what each of the prior expenses that you have incurred that gives the context to how your money is being used.

After this historical context, they go on to define what the specific problem is that they are looking to address and further understand. Their discussion of the cult of the genius brings definition to some of the themes that are found in the historical context and expands the discussion to focus on that specific aspect of creativity (Montuori & Purser, 1995). When looking at creating a change, a haphazard approach to creating that change could be considered unwieldy and lack effectiveness. To return to the concept of changing our own personal spending habits, along with understanding the context or the history of what we are spending, if we don?t know which type of expenditures that we can remove or which ones might be able to be reduced, the likelihood that we can create sustainable and substantive change is limited. Furthermore, this limited change would likely not directly address the underlying area of need. It is through defining specifically what the problem is and giving a structure and understanding of that problem that we can have a specific target for what we are to address.

The third part in addressing a change to the scientific base of knowledge is espousing a description of the new relevant information to be addressed. There is a need to detail what the new framework is or the germane aspects of the new source of understanding. The dive that Montuori and Purser (1995) take into an ecological approach to creativity and understanding the "interconnectedness between the self and the environment" (p. 81) gives a framework to understand the perspective they are trying to expand. Throughout the various aspects of this ecology of creativity, they draw out examples of social creativity. They detail how the environment is a source of inspiration and the way in which a dynamic and circular process between culture and the influence of culture on the individual both portray a method for providing this description. Each of the various aspects of creativity that the authors discuss look at researched aspects of creativity, many of which might have traditionally been applied individualistically, and how they relate to the social nature of creativity. If we are to change our spending habits, there must be a plan for what will be changed. How we will apply our newfound information to the understanding that we previously had.

To make this plan as useful as possible, it becomes important to dive into the specific areas that are being changed and what are some of the identifying information around those areas. We might find that we spend too much money on fast food. But it might take the further discussion to describe

what exactly to do that (plan more homemade meals, apply a limited budget to fast food, etc.). The contextual aspects that Montuori and Purser (1995) describe gives these specific contexts to address. This includes topics such as the significance of mentors and role models and the role of collaboration and dialogue.

This model for looking at a change to the scientific understanding of our world seems to draw similarities to the way individuals go about changing aspects of their own lives. That method includes a need to understand the context of a problem, give a clear and specific explanation of that problem, and layout how that problem can be changed or the difference in thinking required to gain this new understanding. These general methods for making an academic case seem to be consistent throughout the scientific literature. These are not the only methods that scholars use to develop and express these academic arguments.

Stylistic Methods for an Academic Case

A common strategy for developing an academic argument is by both cited research examples and through allegories. To explain the importance and complexity of improvisation in creativity Montuori (2003) uses several allegories to drive his points across. The entire paper is framed around his experience after a conference he attended in Brazil. He goes on to tell a story that brought inspiration and insight into the aspects of improvisation through having to adapt to playing soccer on a sandy beach. These stories are appropriate, and they give specific and concrete examples that play a two-fold purpose. It both shows how the author gained gained insight into improvisation by using a real-world example, but it also provides a type of a picture that the reader can imagine in an attempt to gain the same insight.

Along with these experiential descriptions of insight gained during everyday life experiences, Montuori (2003) also relates the concept of improvisation to another highly related field. This concept of comparing the implementation of an idea or topic within a highly developed field to demonstrate the connections to another field is another strong method for making an argument. It is difficult to think of most jazz music without intertwining the concept of improvisation as it is a universally used activity within the music genre. It is useful to see the elements of a topic discussed as it relates to another topic, as it gives context and assists in developing aspects of that topic or theme.

Another idea that we can take from this idea of advancing scientific knowledge, is looking to apply concepts to far-reaching fields. Montuori and Purser (1995) look at the lone genius is an argument that was addressing a commonly held belief both by society at large and in the smaller subset of the academic community. Eisler et al. (2016) are also similarly broad. Over half of the world?s population is made up of women and is a larger percentage of most universities? stu-

dent body. For example, at the California Institute of Integral Studies, women made up 69 percent of the student body in Fall of 2018. Eisler et al. (2016) argument is centered around understanding gender. It is not exclusive to looking at either male creativity or female creativity, but rather a more holistic approach to creativity. While their paper was more directed towards creating a more holistic view of creativity, it also works to dispel some commonly held beliefs about women and creativity. By both addressing societies understanding of creativity and women and creating a more holistic approach to creativity, the authors create a far-reaching topic that is applicable to many both in academia and society in general.

This developing mass appeal and connection helps the research to be more readily propagated, some of the specific discussion can examine elements that are frequently important to a great number of people. For example, in Eisler et al. (2016) the discussion around the concepts that have far-reaching implications. They discuss the common term of inventiveness but relate examples of originality and ethics in juxtaposition to creativeness and how some things might be creative, but others just original. Along with connecting creativity with broad appealing ideas and connecting it to topics that have highly linked topics, they also address the topic from a set of different perspectives. Eisler et al. (2016) review the concepts related to creativity, society, and gender at various group levels. These include individual perspectives, those of groups, organizations, and society in general.

Pushing science forward, whether it be through dramatic shifts in understanding and basis, changes in the paradigms and understandings, or small iterative changes takes following a general format for its ability to provoke the intended impact. It also can use stylistic methods such as allegories, connections with other fields of practice, and centering around topics that have a high degree of appeal and developing understanding at different levels of group interaction to help them gain traction and cause the intended impact.

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