Entrepreneurial Opportunity – A Perspective from the Theory of Forms

R. Duncan M. Pelly California State University, Los Angeles

The current debate in entrepreneurship literature as to whether entrepreneurial opportunity is discovered or created stems from two mutually exclusive ontological axioms. This article utilizes perspectives Plato, Alfred North Whitehead, and Mary Parker Follett to accentuate the logical fallacies of a objective or subjective ontology. Instead, the differentiated relational ontology may be more germane. Therefore, opportunity, if viewed as purely objective or subjective, contains the same logical flaws as the conscription that reality is purely subjective or objective. Parallels between reality and entrepreneurship are constructed to signify how entrepreneurial opportunity is defined objectively and subjectively and relationality bridges these concepts.

INTRODUCTION

Entrepreneurship literature is at a crossroads with respect to its comprehension and explanation of opportunity (Alvarez, Barney, and Young, 2010; Alvarez and Barney, 2007a, 2007b, 2013). Do entrepreneurial opportunities exist independently of an entrepreneur's ability to perceive these opportunities (Kirzner 1979, 1983, 1997), or are they simply individual constructions (Sarasvathy 2001, 2003; Baker and Nelson, 2005)? Is it possible that entrepreneurial opportunities are neither exclusively subjective nor objective? Is there a third pathway that more accurately depicts the true nature of entrepreneurial opportunity? This article exemplifies how Plato's Theory of Forms (2013a, 2013b, 2013c, 2012a, 2012b), supplemented by process ontology of Alfred North Whitehead (1919, 1938a, 1938b, 1978) and integration theory of Mary Parker Follett (1919, 1924, 1940), partially resolves the debate between objectivist and subjectivist camps in entrepreneurship by proposing that opportunities are not only objective and subjective simultaneously, but also relational which is not as inconsistent as it may initially appear.

The search for a unifying paradigm in entrepreneurial opportunity is an elusive quest. Since the 1970s, entrepreneurship has struggled to be viewed as a legitimate area of academic research and, in order to gain recognition from its peer fields, it has engaged in a quasi-entrepreneurial academic bricolage by mirroring ideas from disciplines such as economics, sociology, organizational behavior, strategy, and organization theory (Alvarez et al., 2010). Unfortunately, this strategy has been a double-edged sword. At best, this mix and match approach creates a field that embraces a wide diversity of perspectives. Conversely, it has created "physics envy" in that entrepreneurship is not robust enough to stand on its own and borrows inappropriately from other fields (Bygrave, 2007). In either case, blending perspectives from multiple disciplines results in ontological conflicts, namely objectivist and subjectivist views of entrepreneurship and opportunity (Alvarez et al. 2010; Alvarez and Barney, 2007a, 2007b, 2013). Alvarez and Barney (2010) highlight the fact there are significantly different epistemological implications

between these viewpoints and their base assumptions are mutually exclusive. However, assuming one perspective without defining its relationship with the other implies that each exists in abstraction (Whitehead, 1978; Griffin, 2006). It is unlikely that scholars advocating an objectivist or subjectivist perspective would concede that their viewpoints are merely abstractions--it would create a logical contradiction in this debate.

Sociologists cite the either/or mentality as problematic to contemporary scholarship. Leonardi and Barley (2008, 2010; Barley, 1996) concur that the limitations of reductionism are significant. They describe scholars as extremely vulnerable to the traps of binary ontology, since academia is a profession that earns its living through the promulgation of ideas. Leonardi and Barley proceed to describe "cultural antimonies" or phenomena that are difficult if not ontologically impossible to solve (Leonardi and Barley, 2010). Their articles cite several impressive references that characterize key dualisms (Levi-Strauss, 1963, 1976; Needham, 1973) and indicate pre-industrial societies are less dualistic than industrialized ones (Eisenstadt, 1989; Marbury-Lewis, 1989). Therefore, the idea that nature is restricted to only one choice may not be commensurate in understanding phenomena of social sciences, including opportunity.

While the debate in entrepreneurship and social sciences as to the nature of both reality and opportunity rages, this apparent contradiction was partially solved by Plato. Plato's Theory of Forms (2013) disentangled a similar controversy on the nature of reality purported by Heraclitus and Parmenides. Heraclitus postulated that reality was composed of fire, which is dynamic, moving, and subjective. On the other hand, Parmenides declared the world was composed of rock, which is static and objective. It was Plato's Theory of Forms that decreed that nature is composed of a compilation of both – namely that abstractions known as forms are similar to rocks, but the specifics of reality are akin to fire. It is this integrative perspective found in philosophy that will be applied to better exemplify the nature of opportunity.

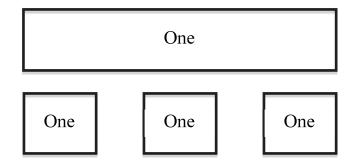
This article is comprised of seven propositions. The first three examine the nature of reality, i.e. if reality is subjective or objective. To support these different viewpoints, it examines the ontological nature of these perspectives. Next it posits that reality consists of the objective, the subjective, and the relational through the differentiated relational ontology (Stout, 2012). These three propositions are substantiated by the theories developed by Plato, Alfred North Whitehead, and Mary Parker Follett. The last four propositions reason by analogy – namely, they examine literature in entrepreneurship and make a comparison with the philosophical underpinnings of the first three posits. It should be noted that opportunity, like reality, is comprised of the objective, subjective, and relational. Finally, this article progresses to a sectional discussion that outlines the boundary limits of the aforementioned theories, implications for practice, and the methodological applications of a differentiated relational ontology.

An Ontological Model of the Objective Nature of Reality

What is objective or static in reality, and what ontology describes this perspective? This section examines the undifferentiated individual ontology (Stout, 2012) as the initial point for understanding reality. Next it contemplates the abstract and static, namely forms (Plato, 2012a, 2012b, 2013a, 2013b, 2013c) and eternal objects (Whitehead, 1919, 1938a, 1938b, 1978). Lastly, this section studies the logical fallacies of this ontology prior to asserting its final proposition.

Ontologically speaking, the objectivist perspective is based on an undifferentiated individual ontology as shown in Figure 1 (Stout, 2012). In this ontology there exists an objective truth, illustrated by the large rectangular block in Figure 1, and all objects in reality strive to emulate this form, as depicted by the smaller square blocks in the same diagram. What is especially unique is that each lower-level entity attempts to mirror the objective form, irrespective of what other entities are doing, thus, the individual portion of the ontology. Forms that are more faithful replications of the opportunity naturally flourish, and those that do not eventually die, irrespective of any real competition. Any variation can be attributed to chance, which combined with the idea that more robust entities naturally survive, shares remarkable similarity to Darwinism (Darwin, 2013).

FIGURE 1 THE UNDIFFERENTIATED INDIVIDUAL ONTOLOGY



Whitehead's process ontology describes structures that are objective and static. To better understand Whitehead's characterization of the universe as it relates to the ontologies proposed in this paper, exiguous definitions are required. Eternal objects form the primordial nature of the universe; they have no physical form, and may be described as potentials or abstractions (Whitehead, 1978; Henning, 2004; Stout and Staton, 2011). This intimates they can never be physically touched nor fully understood in the context of human experience without some supernatural ability. Examples of eternal objects include objects of mathematical, logical, or moral thought (Griffin, 2006). Humanity can only experience these objects through these potentialities' ingressing into the actual world.

These eternal objects are comparable to the ideal forms described in Plato's Theory of Forms (2012, 2013b). Forms answer the general question: "What is this object", to which answers could include a house, an entrepreneurial opportunity, or a dog. Forms are universals, or simultaneously one thing in general and many in particular. As the purest of appurtenances, forms transcend matter, are atemporal, and aspatial. Intelligence may be measured as the ability to partially understand forms. For example, most people understand what a perfect circle is and what it should look like, yet no one has ever seen a perfect circle nor has one ever been drawn, but the ideal form of the circle is true and unchanging and is a partial example of an eternal object. Moreover, according to Plato, all objects in the realm of human experience attempt to mimic ideal forms even though they significantly deviate from the true nature of the form.

Imitations of eternal objects or ideal forms at the level of human experience are typified by the presence of actual entities and objects. An actual entity is a collection of actual items, attracted together and exercising agency by contributing to the experiences of the self, other, and whole (Henning, 2004). Actual items may incorporate human experience, including individuals, ideas, or physical objects. The actual entity itself may include any singular or combination of the aforementioned items. However, it should be noted the size and quantity of items in an actual entity is directly proportional to the amount of agency it exercises (Griffin, 2006). Actual entities are shown in Figure 1 as the smaller squares.

This ontological perspective assumes that reality is objectifiable and all differences of opinion can be relegated to either simple error in the imitation process or any single actual entity's inability to fully comprehend the total nature of the eternal object or form; yet, the teleological endpoint remains unreachable. This ontology contends that reaching the static, pure and unchanging is impossible for humanity, since by definition abstractions are not real. This leads to the first proposition:

Proposition 1 – The purely static or objective world is an unreachable abstraction.

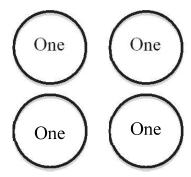
An Ontological Model of the Subjective Nature of Reality

What is dynamic, moving, or subjective in reality, and which ontology describes this perspective? This section examines the differentiated individual ontology (Stout, 2012) as an alternate starting point in reality. It then elucidates the dynamic and fluid aspects of reality, principally the internal dynamics of

actual entities. Lastly, the logical assumptions of this ontology will be exculpated prior to presenting the final proposition.

The differentiated individual ontology, as shown in Figure 2, is derived from fundamentally divergent assumptions than the undifferentiated individual ontology. In this perspective, enactments of reality are created ex nihilo. Each individual creates his own reality by visualizing and assembling it. There is no teleological endpoint because individuals can artlessly imagine any reality they choose at any given time. Moreover, there is no relationality so individuals are not constrained by the actions of others.

FIGURE 2
THE DIFFERENTIATED INDIVIDUAL ONTOLOGY



Unlike the undifferentiated individual ontology, this ideology places heavy emphasis on the formation and interactions within an actual entity. Whitehead's writings discourse upon actual entities whereas Plato's Theory of Forms describes the specific object, but there is little development of that which occurs inside an actual entity, including its composition. For a more fluid understanding, an examination of Follett's works is beneficial. She describes the individual as the coordinator of all items in an actual entity (Follett, 1919). Follett does not specify the managerial coordination mechanism as human. Follett simply states this coordinating mechanism serves as an interpreter or facilitator. Allan (1993) defines the interpretative mechanism of the situation as the actual subject that controls the actual items. The actual subject is an actual item that exercises sufficient agency at a given moment to coordinate the performance of other actual items in actual entity formation. These roles are in constant flux as each actual entity is born and perishes, concluding that actual subjects do not inhabit everlasting roles of coordination but continually envision different interpretations of their world. Because there is no relationality in this ontology, agency is unlimited, and the sizes and shapes of the entities are more dynamic than the actual subject who imagines them. An everyday comparison of this version of reality is games children play, which are based on ad hoc rules that are ever changing.

This model intimates that reality is completely subjective and flowing. In fact, reality flows at a speed faster than the human mind can comprehend. Because it is a world where nothing is limited, including the imagination, it mandates that the world is so dynamic and fast moving that humanity is never able to reach, touch, or fully comprehend it. This ontology leads the second proposition:

Proposition 2 – The purely flowing or subjective world is also an unreachable abstraction.

An Ontological Model of the Subjective, Objective, and Relational Model of Reality

Neither the undifferentiated individual ontology nor the differentiated individual ontology appears to match reality. If nothing we understand is attainable, then we must surely understand nothing. Yet to say humans understand nothing at all is certainly outlandish – we think, therefore we are; we are, therefore, we think and understand. Furthermore, the idea of reality as purely subjective or purely objective with no relationship between the two perspectives is an abstraction (Whitehead, 1978; Griffin, 2006). This section examines an ontology that uses relationality to bridge these two perspectives: the differentiated relational

ontology as shown in Figure 3, wherein ontology postulates that reality is defined objectively (like the undifferentiated individual ontology), subjectively or individually (like the differentiated individual ontology), and relationally.

FIGURE 3 THE DIFFERENTIATED RELATIONAL ONTOLOGY



The initial assumption of this ontology is there exists a definitive series of eternal objects or forms in the universe. The forms impose themselves universally into reality through a process called ingression, which is a relational process between the abstract and the real. Eternal objects' omnipresence purports they become partially organic into actual entities despite their lack of agency, their sole presence exerts pressure on the formation of actual entities through ingression, which is the process by which the primordial nature of eternal objects is passively actualized, or partially brought into the realm of actual experience (Whitehead, 1978). This ingression-induced actualization forms the basic rules of reality in which an actual entity may function, much like the basic rules of chess that limit the moves any piece may make.

Actual entities scan the horizon looking for either a single or a combination of abstractions. Once this actual entity elects to make a decision, it determines on an individual level of analysis to undertake the process of concrescence, whereby actual entities strive to create progressively higher forms to obtain an impossible to reach eternal object (Whitehead, 1919, 1938a, 1978). This individual-level process occurs as a single entity attempts to imitate an abstraction.

On the nexus level of analysis, processes are defined relationally in a multitude of ways. An individual entity may decide to concresce at a certain point in time; however, this choice must be validated relationally. If other members of the nexus do not validate this specific interpretation, then this momentarily inefficient form will not be reincarnated after its demise; whereas, successful forms will continue to regenerate. Moreover, the nexus may form tighter relationships in ways that multiply their agency. This enhanced agency allows greater appreciation and proximity to eternal objects (Whitehead, 1978).

This ontology illustrates that contradictions are not necessarily conflicts (Follett, 1924). While the undifferentiated individual ontology and the differentiated individual ontology's relationship is indicative of a zero sum type of conflict, the differentiated relational ontology sees these ontological assumptions as simply differences in levels of analysis.

Plato's Theory of Forms (2012a, 2013a, 2013b) describes this pseudo-conflict of an object as being comprised of two natures simultaneously. For example, a form is something general, and yet an entity, which is something in particular, and is nomenclatured after the form because it shares some of its characteristics. The specific entity attempts to capture the nature of the form; thus, it is in some ways distorted. However, this distortion is not an inherent contradiction because a subjective or specific occurrence that fails to achieve the full nature of the static, general, or objective is not necessarily in conflict with that form. In this sense, the basic nature of any entity is objectively and individually defined.

Plato's Theory of Forms describes why these imperfections exist. Fundamentally, any entity or occurrence is the result of a blending of multiple abstractions to fit the needs of a specific situation (Plato, 2012a, 2013a, 2013b). Mary Parker Follett terms this as "integration". In other words, any given occurrence is the result of the blending of multiple perspectives in an attempt to achieve greater conformity with any given abstraction or group of abstractions (Follett, 1919, 1924, 1940).

The processes of concrescence and ingression that Whitehead characterizes provide the relationality and dynamism of this ontology since relations are processes. Ingression and concrescence are the processes by which an entity is objectively and subjectively defined, respectively, but the nexus validates these operations relationally. Rodriguez-Pereyra (2000), condenses this alliance of the Theory of Forms through the logical propositions, whereby a and b are any two actual entities and F is any given eternal object or abstraction:

- 1. a and b are the same type/have a common property F
- 2. a and b are both F
- 3. a has a property, F
- 4. a is F
- 5. a has the property F

To fully capture the nature of relationality, the following propositions have been incorporated:

- 6. a and b's sharing of any, or an infinite number of common (P)roperties, including F, implies relationality between F, a, and b
- 7. relationality is a process between a and b
- 8. a and b's relationality processes result in mutual interaction
- 9. a and b's mutual interaction creates individual and unique changes in a and b
- 10. the changes in a and b result in greater sharing of any given (P)roperties, including F
- 11. increased sharing of any given properties, including F, leads to greater asymptotic convergence on F

It is this relationship captured in Plato's Theory of Forms and supplemented with perspectives from Whitehead and Follett that is illustrated in the differentiated relational ontology. Thereupon, any given entity (a) simultaneously contains three distinct natures: (a), which is the individually defined a; (A), which is the abstract property of a; and, (a+b) which is the shared relationships between (a) and (b), leading to the third posit:

Proposition 3 – The total absence of a phenomenon such as subjectivity or objectivity likewise implies a total presence of the same phenomenon; therefore, reality must be defined subjectively, objectively, and the two perspectives are bridged through relationality.

Reasoning by Analogy– Examining Ontological Arguments in Relationship to Entrepreneurial Opportunities and Entrepreneurship

The first three propositions deal with the nature of reality, whereas Proposition 4 uses the rationale found in Plato's Theory of Forms to depict why opportunity is a proxy for reality in the studies of entrepreneurship. Before proceeding, it is critical to define the term entrepreneurship and its relationship with opportunity, since this will foreshadow why reasoning by analogy will enable comparisons between entrepreneurship, opportunity, and reality.

To purloin a definition from Wood and McKinley (2010), opportunity may be broadly described as "a future situation that is both desirable and feasible". This implies that opportunities are individually classified based on the words "desirable" and "feasible". The article later adds the future state is omnipresent and independent of any resources an entrepreneur controls, implying objectivity, but is validated relationally through belief systems. Shane and Venkataraman (2000) state that opportunities are omnipresent and objective, but their recognition is a subjective phenomenon. Short, Ketchen, Shook, and Ireland (2010) conclude that an opportunity is "an idea or dream that is discovered or created by an entrepreneurial entity and is revealed though analysis over time to be potentially lucrative." This

interpretation suggests that opportunities are a necessary requisite for entrepreneurship and may be discovered and/or created through the relational process of time. Later in this article additional exploration of ontological assumptions of opportunities are scribed.

As a subprocess, entrepreneurship definitions possess references to opportunity. As an example, Shane and Venkataraman (2000) promote one of the better-known definitions of entrepreneurship by asserting that it is the study of the sources of opportunities; specifically, the process of discovery, evaluation, and exploitation of opportunities, and the set of individuals who discover, evaluate, or exploit them. Bygrave and Hofer (1991) characterize an entrepreneur as one who visualizes an opportunity and creates an organization to reach that opportunity. Short et al. (2010) notate that opportunity defines the boundary conditions of entrepreneurship and without opportunity no entrepreneurship can ensue-irrespective of the work ethic of the individual entrepreneur. Finally, McMullen, Plummer, and Acs (2007) write that entrepreneurial opportunity is the chance to undertake entrepreneurial action and that entrepreneurship is a sub-class of broader human behavior.

This juxtaposition of definitions highlights an interesting relationship between entrepreneurship and opportunity. The definitions of opportunity are indicative of something that is present in the environment and in the individual, and at the same time drives the individual's relations. This omnipresence of opportunity is evident in the aforementioned definitions of entrepreneurship, all of which use the word "opportunity". Therefore, if entrepreneurship is a subset of human experience, then opportunity must be the subset of reality that permits entrepreneurship.

Using the same rationale behind Plato's Theory of Forms, it becomes evident that entrepreneurship is a more specific occurrence of the human experience; and, opportunity is a more concise form of reality, which leads to the following proposition:

Proposition 4 – Opportunity is a proxy for an overarching reality when studying entrepreneurship.

An Objectivist Approach to studying Entrepreneurship

The discovery approach of entrepreneurial opportunity follows in the spirit of Kirzner (1979, 1983, 1997) in that opportunities objectively exist, and unusually perceptive individuals can benefit from them. The ontological assumption concedes that opportunities exist independently of an individual's knowledge of their existence, though this knowledge can be acquired (Alvarez and Barney 2007; 2010, 2010b; Alvarez et al. 2010). Shane and Venkataraman (2000) write that opportunities objectively exist; yet, their recognition is a subjective phenomenon. Once an opportunity is recognized, it serves as a teleological endpoint or a process goal and is its driver (Fayolle, 2007).

In essence, this discovery concept eliminates a large degree of free will from the entrepreneur's control. The endpoint guides the entrepreneur's actions, similar to an invisible hand (Smith, 2013) or an inexorable pull to a specific form of behavior. Instead, the entrepreneur must have a multitude of resources available to reach the end state through actionable entrepreneurship (Fisher, 2012). Nonetheless, the teleological endpoint is the engine of the entrepreneurial process and serves as the endpoint for the entrepreneur.

The nature of this endpoint remains elusive. Is it the market itself, as Kirzner (1979, 1983, 1997) describes? Could it be an ambiguous system, as described by Giddens (1984), that supports and constrains an actor's behavior thereby guiding the entrepreneur; or, as Festinger (1957) questions, do actors always intend to make their actions and cognitions concordant with a system and remain helpless to change it? Could a perceived instantaneous strategic configuration or the entrepreneur's understanding of current conditions pilot the entrepreneurial process (Fayolle, 2007)? If the system is out of kilter, is the entrepreneur forced to act, or is perhaps the endpoint strictly an idea, an abstraction, a potentiality, or a fantasy that we spend a lifetime trying to achieve as shown in enactment (Weick, 1979; Gartner, 1993)? Clearly, there is no consistent definition of an endpoint.

Ontologically speaking, the discovery perspective in entrepreneurship is based upon an undifferentiated individual ontology as aforementioned in Proposition 1. What is specifically unique is that each entity, or entrepreneurship, strives to emulate the objective opportunity, irrespective of what other businesses or organizations are doing, hence, the individual portion of the ontology. Forms or businesses that are more exacting replications of the opportunity will naturally flourish, and those that do not will eventually cease to exist, irrespective of real competition. This approach is a blending of Van de Ven and Poole's (1995) teleological logic of change, albeit with an evolutionary progression of events. However, basic economic assumptions of supply, demand, competition, and common sense dictates there are relational attributes to entrepreneurial opportunity.

What this ontological perspective does not address is how an individual convinces others that an opportunity is a good idea or an accurate depiction of the objective opportunity. As Shane (2012) describes, Leonardo da Vinci enacted (Weick, 1979; Gartner, 1993) the idea of flight, but was never able to create an airline because the social and technological systems did not support it; furthermore, there were other competing modes of transportation that were certainly safer than his flight experiments. Consequently, while the need for flight might have been objective, the relative system was unable to support it. This implies that purely objective opportunities continue to have a relational element—an idea also supported by Fisher (2012), surmising that no opportunity is truly objective. To further exemplify, as in the flight example, if the teleological endpoint is so obvious, then why did the public, the relational system, and individuals not rally together to achieve this teleological endpoint? This lack of cohesion implies the discovery perspective does not provide a full explanation as to where opportunities originate if they objectively exist and why they are not easily visualized. Perspectives such as those of Kirzner (1979, 1983, 1997), Giddens (1984), and Festinger (1957) evaluate systems (such as the market, social system, government, strategic configuration, or bureaucracy) and conclude they possess the opportunities objectively for actors to observe and act upon. However, these systems are socially constructed, so their variations are, likewise, socially constructed resulting in biases (Alvarez and Barney, 2013). What is conclusive is that objective and static systems must contain elements of relationality and subjectivity leading to the next proposition:

Proposition 5 – Opportunities as purely objective or discovered is an abstraction.

A Subjectivist Approach to Studying Entrepreneurship

A philosophic doctrine proposes that opportunities are not objective, but are created subjectively or individually. Precepts using constructed or created perceptions of entrepreneurship decree that information available to an entrepreneur is an individual-level interpretation of the environment and its resources and what can be achieved in a unique context (Alvarez and Barney 2007; 2010; Alvarez et al. 2010). Creation theories of entrepreneurship differ from a discovery process-based view of entrepreneurship in that creation focuses almost exclusively on subjectivist points of view that emphasize individual level sense making at the cost of objectivist perspectives.

Effectuation theory (Sarasvathy 2001, 2003, 2010) shares additional similarities with creation or constructionist-based entrepreneurship. This theory emphasizes the differentiated individual ontology as aforementioned by evidencing that entrepreneurs endeavor to create a better world in their image and by incorporating multiple possible conclusions at the individual level. Unfortunately, this perspective avoids teleological assumptions indicating that entrepreneurs do not choose among a predefined list of options but forge new options ex nihilo and are concerned with their own existentialism (Sarasvathy, 2003). Furthermore, there is an emphasis on the role of the individual as the entrepreneur (Sarasvathy, 2001).

An additional constructionist perspective with a similar ontological set of assumptions is that of entrepreneurial bricolage as described by Baker and Nelson (2005). In this ethos, the entrepreneur utilizes available means, and resource environments are individually constructed enabling the entrepreneur to create new opportunities ex nihilo (Fisher, 2012). This eidolon typically ignores the environment because it concludes that imagined opportunities are achieved irrespective of the resources currently controlled, because any set of resources can be reconfigured to meet an individual aspiration. Numerous examples of this concept exist in Social Construction of Technology (SCOT) literature. Pinch and Bijker (1984) provide a lengthy discussion on how individual needs construct the formation of technologies and entrepreneurial opportunities, and that opportunities are not required to be unique as shown in the work

by Kline and Pinch (1996), which describes how farmers created entrepreneurial opportunities by replicating existing machines through the use of bricolage and a powered vehicle. A final illustration of bricolage is Galileo's "invention" of the telescope. Although it is considered novel, it was actually invented by Hans Lipperhey several years' prior, but even Lipperhey's invention was constructed of commonly available materials (Bickham, 2009).

These creation-based theories are incompatible with the discovery perspective because individual and subjective-based theories depend upon creation ex nihilo or construction from nothing. Creation ex nihilo is impossible from the discovery perspective and from an undifferentiated individual ontology, since creation from nothing means that entrepreneurs derive possibilities in abstraction, not from abstractions, implying that entrepreneurs are not real, which is an intuitively impossible deduction. Ex nihilo creation is in line with a differentiated individual ontology (Stout, 2012). However, ex nihilo creation means that opportunities are not socially constructed, are devoid of relationally, and are derived exclusively in abstraction. Despite the emphasis on the individual, the cases of bricolage and effectuation are both dependent upon some form of external inspiration that is socially or materially validated.

Social validation implies a form of goal, or using a series of definitions from Fayolle's (2007) discussion of the process of entrepreneurship, the term "process" generally concedes some sort of endpoint, which is the same as the starting point and is the eternal object or form. This process is concresence where actual entities strive to create ever-higher forms (such as an entrepreneurial opportunity) to reach an unobtainable eternal object. From the teleological perspective in entrepreneurship (Fayolle, 2007) this is the endpoint towards which entrepreneurs struggle. As in the differentiated relational ontology (Stout, 2012) there is an ever-changing nexus composed of dying and spawning actual entities (Whitehead 1919, 1938a, 1938b, 1978). So, too, is the entrepreneurial creation process coalesced with different entrepreneurs' interpretation of opportunity (or eternal object) and the most effective ways to attain that abstraction. Nonetheless, the goal is to achieve a desired end state whether it is through a dissipative system (Ekeland, 1984, 1990) or a more chaotic pathway (Fayolle, 2007). This partial existence of an endpoint calls into question the validity of the individual or subjective viewpoint in entrepreneurship.

To emphasize mankind and his ability to construct a reality as the entrepreneurial impetus is to deny the varying degrees of actuality and creativity of the objects in the entrepreneur's environment. This conclusion implies that only entrepreneurs are actual, and all else is an abstraction, which again does not reflect an accurate depiction of reality. Furthermore, if organizations are entirely individually or subjectively constructed, then why is imitation (Shenkar, 2010) or isomorphism (DiMaggio and Powell, 1983) so prevalent? The ontological inconsistencies in creation or subjective-based theories of opportunity suggest there may be both relational and objective aspects missing from this perspective, leading to the sixth proposition:

Proposition 6 – Opportunity as a purely subjective or individual-level phenomenon is, likewise, an abstraction.

Entrepreneurship from an Objective, Subjective, and Relational Perspective

Since Propositions 5 and 6 have suggested that entrepreneurial opportunity is something purely objective or purely individual/subjective and is nothing more than an abstraction filled with ontological conflicts then conceivably entrepreneurial opportunity, much like reality as was shown in Proposition 3, may be most effectively examined through a differentiated relational ontology.

The topographical representation from Fayolle (2007) provides an excellent comparison of entrepreneurial opportunity and the differentiated relational ontology. The eternal object is the peak of the mountain or pseudo attractor, and like pseudo attractors, there are an infinite number of eternal objects objectively existing and visible to all mountain climbers or entrepreneurs, validating the discovery or objective approach captured in the undifferentiated individual ontology. However, each individual entrepreneur imagines which mountain peaks are the most desirable to climb, and constructs fantasies about how they will reach that mountaintop. This validates the differentiated individual ontology

approach because like actual entities, the entrepreneurial process or individual entrepreneur scans the horizon for an eternal object, mountain peak, or opportunity that it hopes to conquer. However, the way to approach that teleological mountain peak is dependent upon the environment; namely real, not imagined resources that are necessary to construct any single pathway, ratifying the relationality perspective. It is through this metaphor that we see an opportunity as one thing in general to be discovered, and another thing specifically to be chosen or imagined, and many things in particular designed to reach an endpoint.

This ontological perspective complements process theories of entrepreneurship while simultaneously addressing the flaws of binary reductionism found in the creation versus discovery of opportunity debate. This ontological framework removes much of the responsibility of entrepreneurial coordination from the individual and toward the objective nature of abstractions. It also empowers enablers and identifies constraints of the environment, a model similar to Actor Network Theory, which attributes agency to both animate and inanimate actors (Latour, 2006). Whitehead's theory discusses the relationship between a coordinator and its objects, which is called a concern and contains a reflexive relationship. The coordinating mechanism uses objects; nevertheless, the objects exercise a degree of agency over their coordinators shaping the entrepreneur (Stenner, 2008).

The rationale behind the premise that an entrepreneur or his firm are inseparable from the process he creates and discovers, avoids binary reductionism that assumes entrepreneurship is broken into neatly separable components, such as a uniquely subjective or objective perspective (Bygrave, 2007). This idea is echoed in Follett (1919, 1924, 1940) who states that coordinating mechanisms like entrepreneurial opportunity are never embodied wholly within an individual, but jointly with an individual and context. Leitch (2007) cites Cope and Watts (2000) who promote a high degree of independence between the entrepreneur, the roles he plays, the entrepreneurial venture, the larger environment, and his cosmological orientation, impacting the way an entrepreneur adapts to his dynamic contexts, an idea reverberated in Brundin (2007), Favolle (2007) utilizes a concept adopted from Bruvat (1993); nominally, the perceived instantaneous strategic configuration to explain that an entrepreneurial opportunity must fit into the nexus of aspirations, recognized resources and skills, and potentialities of the environment, essentially making all of these elements inseparable in an entrepreneurial event. Thereupon, it becomes transparent the idea of separating an entrepreneur from his process and nexus is as ontologically impossible as disjoining a discovered opportunity from one that is created.

This paradox between the eternal object as something both general and particular with actual entities being relationally defined resolves the ontological inconsistencies and conflicts between opportunity as a discovered versus a created phenomenon and provides agreement with the differentiated relational ontology. With the addition of the eternal object, it becomes evident that opportunity is both a starting point awaiting discovery and an endpoint anticipating achievement, validating individual and objective perspectives on opportunity and providing a layer of relationality. Entrepreneurs desirous of comprehending what opportunities exist or how to achieve ones they previously enacted (Weick, 1979; Gartner, 1993) must view their creation of an organization not as a way to change a constructed system, but rather to achieve a greater degree of perfection through collective agency. As Bygrave and Hofer (1991) explain, an entrepreneur is someone who perceives an objective and creates a specific organization designed to achieve that opportunity. Likewise, the abstract serves as a point of inspiration for the actual, and the actual is constructed to understand the abstract - just as discovery births creation and more creation enables greater discovery. Shane and Venkataraman (2000) expanded upon Bygrave's definition of an entrepreneur and conjecture that opportunities objectively exist, but entrepreneurs discover them, thus creating organizations to exploit these opportunities. This is analogous to bounded rationality (Simon and March, 1958) which creates the subjective nature of the entrepreneurial process, and prevents every opportunity from being exploited the preferred way consistently. This discussion leads to the final proposition:

Proposition 7 – Opportunities are the result of a blending between the objective, subjective, and relational elements of reality.

DISCUSSION – BOUNDARY LIMITS

This paper promotes a unique ontology as a tool to re-examine the entrepreneurial phenomenon. By beginning with an abstract overview of reality and outlining the ontological contradictions in both a uniquely objective and subjective view of reality, this article substantiates the differentiated relational ontology which examines reality as defined objectively, subjectively, and relationally. It promulgates reasoning by analogy to illustrate that if certain interpretations of reality are confronted with a given set of ontological contradictions then so, too, must entrepreneurial opportunity which serves as a partial proxy for entrepreneurial reality.

Current academic conventions express several objections with this approach. The first disaccord among scientists is that comparing reality as a whole with various ontologies, then using opportunity as a proxy for entrepreneurial reality may be an inappropriate use of reasoning by analogy. The use of Plato's Theory of Forms substantially weakens this critique (Plato, 2012a, 2013a, 2013b). Beginning with reality as a generality, which includes other broad sub-processes, we may proceed to a more specific form of reality, namely opportunity, which has the lineament sub-process of entrepreneurship. In other words, this analogy is not examining conflicting occurrences, but ones occurring at differing levels of analysis.

Another disclosed dissension with this proposition is the substitution of different ontologies that cannot be inherently proven--ontologies are supposed (Plato 2012a, 2013a), and are, therefore, not empirically testable. Consequently, this article contains no hypotheses, only propositions. It is impossible to deny the value of conventional quantitative or qualitative empirical testing, but the goal of this dissertation is to derive a logical, not empirical finding.

Finally, the differentiated relational ontology does not have all-comprehensive answers regarding the nature of opportunity. It is intended to form a bridge between two seemingly irreconcilable perspectives on entrepreneurial opportunity--videlicet, if opportunities are subjective or objective, and the insertion of a layer of relationality to the discussion. By reconciling two conflicting perspectives and including a third layer of analysis, this ontology should supply a more holistic view of the entrepreneurial phenomenon.

METHODOLOGICAL IMPLICATIONS AND FUTURE RESEARCH

Although this article did not employ empirical investigations, it in no way implies that empirical research is inappropriate in exploring this novel ontology in relation to entrepreneurial opportunity. Because it advocates an ontological change, it necessitates an accompanying epistemological and methodological shift, since all three must form a coherent framework (Avenier, 2010). Therefore, methods typically restricted to objective views of reality, such as quantitative analysis are unsuitable, as are qualitative methods designed to capture the subjective nature of reality. Methods based upon the binary reductionism of an objective vs. subjective approach to understanding opportunity are incoherent with the differentiated relational ontology for a multitude of reasons. First, it is acknowledged that fully understanding the majority of the initial variables in relatively closed experiments, such as those on manufacturing lines, is achievable. However, controlling for all variations of an entrepreneur's initial behavior is unrealistic, as variation is derived individually, relationally, and objectively.

Moreover, normal distributions assumed in quantitative research attribute variation to accidental not intentional causes; yet, the existence of an opportunity is not always accidental and is not typically normally distributed (Eckhardt and Shane, 2003). Another concern is the alleged predictive power of binary based methodologies which ignore the Oedipus effect - that data points in a given time are relational and are ever-changing based upon the behavior of others which effects predictive outcomes (Popper, 1944). Finally, using data points to understand a teleological end is also problematic. If a teleological and static end were blatantly obvious, then every entrepreneur would be able to achieve a consistent end each time with little variation as shown in the undifferentiated individual ontology. According to Marcus Aurelius, the singular way to understand the teleological world is through prayer (Aurelius, 2013). In Plato's words, to understand an abstract and fixed point would require a sensory perception so foreign to human experience it would be impossible to believe or communicate (Plato, 2012a, 2013a). Correspondently, a static view of reality as advocated by traditional methodologies, contrasts with the three-tiered worldview of the differentiated relational ontology.

To address the gap in reductionist ontology and its associated modalities, a method corresponding with a process-based reality is proposed: the autoethnography. This approach provides a more robust description of the process of entrepreneurship because it focuses on highly personalized accounts that interweave the researcher, context, and interactions in a way that blurs the line between self and other to provide a complex retrospective inquiry, supporting feminist traditions emphasizing the subjective, empathetic, process-oriented, and inclusive sides of social life (Neumann, 1994). Ontologically speaking, autoethnography embraces the differentiated relational ontology, because it attempts to understand universal norms, if they exist, through dialogue between self and others. It pretends no predictive power. Instead, it is to be used as a sense making device for the reader to provide reasoning by analogy, aiding the reader to understand the world through an experience of the self, other, and whole (Henning 2004).

In conclusion, researchers endeavoring to understand the complex nature of the entrepreneurial phenomenon should no longer profess being objective or distanced from the occurrences they wish to research. As advocated in Steyaert (2011) and Fletcher (2011), there is no better way to understand entrepreneurship than experiencing it firsthand through methods such as autoethnography. Self-immersion enables the researcher to partially understand an abstraction, define it at the individual level of analysis and, because autoethnography is a study of the self and other (Spry, 2001; Ellis, Adams, and Bochner, 2011; Rambo, 2005; Atkinson, 2006), it allows the researcher to improve his understanding of a phenomenon relationally.

IMPLICATIONS FOR PRACTICE

The implications of this new ontology have an intriguing array of prescriptions for entrepreneurs. Objective views of entrepreneurship instruct the entrepreneur to search for market imperfections to achieve opportunity. Subjective interpretations of entrepreneurship tout the construction of opportunities irrespective of external conditions. Each of these reductionist perspectives comforts the entrepreneur in many ways by providing a seemingly simple pathway to follow. With such existing theoretical knowledge, why then do entrepreneurs fail? It would appear that the logical conflicts in these ontologies are at fault. This does not mean that the differentiated relational ontology provides a simple solution or a guide to the entrepreneur's ability or lack thereof to perceive, define, and capture opportunities. Instead of providing a simple, single-level ontology, the differentiated relational ontology defines entrepreneurial opportunities across three distinct levels. This asserts that successful entrepreneurs must in some way overcome difficulties of understanding objective opportunities and creating organizations to reach them. This ontology expounds upon the complex nature of opportunity and advises practitioners to consider new levels of analysis prior to undertaking a new venture. This is an ontology that embraces the complexity of the entrepreneurial phenomenon and does not attempt to simplify it.

CONCLUSION

The question of whether opportunities are created or discovered by entrepreneurs is an ontologically incoherent question. Using a reductionist ontological perspective of either/or regarding the nature of opportunity results in two distinct viewpoints related to the classical debate of whether reality is objective or subjective, a perspective that denies the richness of the entrepreneurial phenomenon and is not particularly useful for academicians or practitioners.

A possible resolution is using a differentiated relational ontology. Through questioning the very nature of the opposition of discovery and creation perspectives in entrepreneurship along with their root assumptions, this work paves the way towards an integrative ontology that examines how the two perspectives can be combined, incorporating a new level of analysis to provide a more comprehensive picture of the entrepreneurial phenomenon in lieu of advocating one perspective as right and the other wrong.

To provide the basis for this integrative perspective, this author began by reviewing the ontological assumptions of a subjective and objective based view of reality and highlighting their logical inconsistencies in the first two propositions. A third ontology is proposed that defines reality objectively, subjectively, and relationally. Based upon the first three propositions, four propositions were conjoined that used reasoning by analogy to undergird that opportunity is an overarching perspective of entrepreneurial reality and this assumption is used to refute discovery and creation perspectives in entrepreneurship as pure abstractions. Finally, this article doctrines the same differentiated relational ontology from Proposition 3 and applies it to the study of entrepreneurial opportunity. The resulting shift of the philosophical foundations of entrepreneurship through suggesting the existence of eternal objects and actual entities exemplifies how discovery and creation perspectives are complementary, not contradictory in explaining the nature of opportunities.

This ontological shift concludes that opportunity is a general, specific, and relational phenomenon with the general nature of opportunities discovered objectively, defined individually, and relationally built. This perspective asserts that the nature of opportunity is not inherently contradictory, but rather is a description of the actual, the abstract, and the relationship between the two, which are three distinctly different levels of analysis.

This integrative azimuth has implications for academicians and practitioners. For entrepreneurs, this should promote the actualization of abstract opportunities as they are understood individually and relationally. Scanning the horizon for mountain peaks, or abstractions, will result in a greater number of possible paths for entrepreneurs to create, culminating in a greater number of both general and specific opportunities, providing a more complete picture of reality. Academicians should be encouraged to explore the abstract in their research of entrepreneurship. Instead of studying examples through case studies or macro-level statistical analysis, methodologies such as autoethnography may enable researchers to better understand the abstract through self-immersion in the processes they study.

REFERENCES

- Allan, G. (1993). Process ideology and the common good. *The Journal of Speculative Philosophy*, 7, (4), 266-285.
- Alvarez, S. A., & Barney, J. B. (2007). Discovery and creation: alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 1, (1-2), 11-26.
- Alvarez, S. A., Barney, J. B., & Young, S. L. (2010). Debates in entrepreneurship: opportunity formation and implications for the field of entrepreneurship. *In Handbook of Entrepreneurship Research*, New York: Springer, 23-45.
- Alvarez, S. A., & Barney, J. B. (2010). Entrepreneurship and epistemology: The philosophical underpinnings of the study of entrepreneurial opportunities. *The Academy of Management Annals*, 4, (1), 557-583.
- Alvarez, S. A., & Barney, J. B. (2007). The entrepreneurial theory of the firm. *Journal of Management Studies*, 44, (7), 1057-1063.
- Alvarez, S. A., Barney, J. B., & Anderson, P. (2013). Forming and exploiting opportunities: the implications of discovery and creation processes for entrepreneurial and organizational research. *Organization Science*, 24, (1), 301-317.
- Atkinson, P. (2006). Rescuing autoethnography. *Journal of Contemporary Ethnography*, 35, (4), 400-404. Aurelius, M. (2013). *Meditations*. Project Gutenberg.
- Avenier, M. (2010). Shaping a constructivist view of organizational design science. *Organization Studies*, 31, 1229-1255.
- Barley, S. (1996). Technicians in the workplace: ethnographic evidence for bringing work into organization studies. *Administrative Science Quarterly*, 41, 404-441.
- Barnard, C. (1938). The functions of the executive, Boston: Harvard University Press.
- Bickham, S. (2009). The metaphysics of causality and novelty. *The Pluralist*, 4, (3), 64-68.
- Brundin, E. (2007). Catching it as it happens. In *Handbook of Qualitative Research Methods in Entrepreneurship*, Neergaard, H., & Ulhoi, J. P. (eds). Cheltenham: Edward Elgar Publishing; 279-307.
- Bygrave, W., and Hofer, C.W. (1991). Theorizing about entrepreneurship. *Entrepreneurship Theory and Practice*, 16, (2), 13-22.
- Bygrave, W. (2007). The entrepreneurship paradigm (I) revisited. In *Handbook of Qualitative Research Methods in Entrepreneurship*. Neergaard, H., & Ulhoi, J. P. (eds). Cheltenham: Edward Elgar Publishing; 17-48.
- Cope, J., & Watts, G. (2000). Learning by doing An exploration of experience, critical incidents and reflection in entrepreneurial learning. *International Journal of Entrepreneurial Behaviour & Research*, 6, (3), 104-124.
- Darwin, C. (2013). On the origin of species. Project Gutenberg.
- Eckhardt, J. T., and Shane, S. A. (2003). Opportunities and entrepreneurship. *Journal of Management*, 2, 209-224.
- Eisenstadt, S.N. (1989). Dual organizations and sociological theory. In *The attraction of opposites:* thought and society in the dualistic mode, D. Marbury-Lewis and U. Almagor (eds.) Ann Arbor, MI: University of Michigan Press, 345-354.
- Ekeland, I. (1984). Le calcul, l'imprevu. Paris: Editions du Seuil.
- Ekeland, I. (1990). Le roi Olav lancant les des. In *La Querelle du Determinisme*, S. Amsterdamski et al. (eds). Paris: Gallimard, 163-72.
- Ellis, C., Adams, T. E., & Bochner, A. P. (2011). Autoethnography: an overview. *Historical Social Research/Historische Sozialforschung*, 273-290.
- Fayolle, A. (2007). *Entrepreneurship and new value creation: The dynamic of the entrepreneurial process.* Cambridge: Cambridge University Press.
- Festinger, L. (1957). A theory of cognitive dissonance. Stanford: Stanford University Press.

- Fisher, G. (2012). Effectuation, causation, and bricolage: A behavioral comparison of emerging theories in entrepreneurship research. *Entrepreneurship Theory and Practice*, 36, (5), 1019-1051.
- Follett, M. (1919). Community is a process. The Philosophical Review, 6, 576-588.
- Follett, M. (1924). Creative experience. http://mpfollett.ning.com
- Follett, M. (1940). Dynamic Administration. http://mpfollett.ning.com
- Gartner, W. B. (1993). Words lead to deeds: towards an organizational emergence vocabulary. *Journal of Business Venturing*, 8, (3), 231-239.
- Giddens, A. (1984). Elements of the theory of structuration. In *The Polity Reader in Social Theory*. Cambridge: Polity Press.
- Griffin, D. (2006). An introduction to process cosmology. *Cosmology and Process Philosophy in Dialogue*.
- Henning, B. (2004). A whiteheadian aesthetics of morals: from the metaphysics of creativity to the ethics of creativity. Claremont: Center for Process Studies.
- Kirzner, I. (1973). Competition and entrepreneurship. Chicago: University of Chicago Press.
- Kirzner, I. (1983). *Perception, opportunity, and profit: Studies in the theory of entrepreneurship.* Chicago: University of Chicago Press.
- Kirzner, I. (1997). Entrepreneurial discovery and the competitive market process: An Austrian approach. *American Economic Association*, 35, 65-85
- Kline, R., & Pinch, T. (1996). Users as agents of technological change: The social construction of the automobile in the rural United States. *Technology and Culture*, 37, (4), 763-795.
- Latour, B. (2006). *Reassembling the social An introduction to actor network theory*. Oxford: Oxford University Press.
- Leitch, C. (2007). An action research approach to entrepreneurship. In *Handbook of Qualitative Research Methods in Entrepreneurship*, Neergaard, H., & Ulhoi, J. P. (eds.). Cheltenham: Edward Elgar Publishing; 144-168.
- Leonardi, P. M. and Barley, S. R. (2008). Materiality and change: challenges to building better theory about technology and organizing. *Information and Organization*, 18, 159-176.
- Leonardi, P. M. and Barley S. R. (2010). What's under construction here? Social action, materiality, and power in constructivist studies of technology and organizing. *The Academy of Management Annals*, 4, 1-51.
- Levi-Strauss, C. (1963). Structural anthropology. New York: Basic Books.
- Levi-Strauss, C. (1975). Structural anthropology. New York: Basic Books.
- Marbury-Lewis. (1989). The quest for harmony. In *The Attraction of Opposites: Thought and Society in the Dualistic Mode*, D. Marbury-Lewis and U. Almagor (Eds.). Ann Arbor: University of Michigan Press, 1-18.
- March, J, and Simon, H. (1958). Organizations. New York: Wiley.
- McMullen, J., Plummer, L., and Acs, Z. (2010). What is an entrepreneurial opportunity? *Small Business Economics*, 28, 273-283.
- Needham, R. (1973). *Right and left: essays on dual symbolic classification*. Chicago: University of Chicago Press.
- Neumann, W.L. (1994). *Social research methods: qualitative and quantitative approaches*. Needham Heights: Allyn and Bacon.
- Pinch, T. J., & Bijker, W. E. (1984). The social construction of facts and artefacts: or how the sociology of science and the sociology of technology might benefit each other. *Social Studies of Science*, 399-441.
- Popper, K. (1944). The poverty of historicism, I. Economica, 11, (42), 86-103.
- Powell, W., & DiMaggio, P. (1983). The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, (2), 147-160.
- Rambo, C. (2005). Impressions of grandmother an autoethnographic portrait. *Journal of Contemporary Ethnography*, 34, (5), 560-585.
- Rodriguez-Pereyra, G. (2000). What is the problem of universals? *Mind*, 109, (434), 255-273.

- Sarasvathy, S. D. (2001). Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 243-263.
- Sarasvathy, S. D. (2010). Entrepreneurship as economics with imagination. *The Ruffin Series of the Society for Business Ethics* 3, 95-112.
- Sarasvathy, S. D. (2003). Entrepreneurship as a science of the artificial. *Journal of Economic Psychology*, 24, (2), 203-220.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25, (1), 217-226.
- Shane, S. (2012). Reflections on the 2010 AMR decade award: delivering on the promise of entrepreneurship as a field of research. *Academy of Management Review*, 37, (1), 10-20.
- Shenkar, O. (2010). Defend your research: Imitation is more valuable than innovation. *Harvard Business Review*, **88**, (4), 28-29.
- Short, J, Ketchen, D, Shook, C, and Ireland, D. (2010). The concept of opportunity in entrepreneurship research: Past accomplishments and future challenges. *Journal of Management*, 36, 40-65.
- Smith, A. (2013). An inquiry into the nature and causes of the wealth of nations. Project Gutenberg.
- Spry, T. (2001). Performing autoethnography: An embodied methodological praxis. *Qualitative Inquiry*, 7, (6), 706-732.
- Steyaert, C. (2007). 'Entrepreneuring' as a conceptual attractor? A review of process theories in 20 years of entrepreneurship studies. *Entrepreneurship and Regional Development*, 19, (6), 453-477.
- Stout, M, and Staton, C. (2011). The ontology of process philosophy in Follett's administrative theory. *Administrative Theory and Praxis*, 33, 268-292.
- Stout, M. (2012). Competing ontologies: A primer for public administration. *Public Administration Review*, 72, 388-398.
- Van de Ven, A.H. & Poole, M.S. (1995). Explaining development and change in organizations. *Academy of Management Review*, 20, (3), 510-540.
- Weick, K. (1979). The social psychology of organizing. Reading: Addison-Wesley
- Whitehead, A. (1919). *An enquiry concerning the principles of natural knowledge*. Cambridge: Cambridge University Press.
- Whitehead, A. N. (1938). *Modes of thought*. New York: Macmillan.
- Whitehead, A. N (1938). Adventures of ideas. New York: Free Press.
- Whitehead, A. N. (1978). An essay in cosmology. New York: Free Press.
- Wood, M. S., & McKinley, W. (2010). The production of entrepreneurial opportunity: A constructivist perspective. *Strategic Entrepreneurship Journal*, 4, (1), 66-84.