Entrepreneurs as Scientists: A Pragmatist Alternative to the Creation-Discovery Debate

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In a thoughtful comment on our paper (Zellweger & Zenger, 2022), Sergeeva, Bhardwaj, and Dimov (2022) join us in advocating for a pragmatist perspective on entrepreneurship. The authors however offer two closely related critiques of our pragmatist perspective. They suggest entrepreneurs are more than scientists seeking to understand their world, but rather engineers, designers, and artists who act to produce value within it. They also situate our pragmatist perspective within the epistemological creation vs. discovery debate, and cast us into the discovery camp where entrepreneurs merely seek to discover a future that already objectively exists in the present. In our comments below, we develop two responses. First, while we wholeheartedly agree that entrepreneurs act to create value as they solve problems, in doing so, all humans, including entrepreneurs, engineers, and artists act as scientists. Second, while we reject the placement of our perspective in the discovery camp, we argue that our entrepreneur as scientist perspective and pragmatism more generally find little use for the made vs. found distinction.

Entrepreneurs as (pragmatist) scientists

First, we wholeheartedly agree with Sergeeva, Bhardwaj, and Dimov (2022) that entrepreneurs are more than scientists who only seek to understand their world, but rather are individuals who act within it to create value through new products or services (Casson, 1982; Shane & Venkataraman, 2000). In Zellweger and Zenger (2022) we highlight a broad scope of actions through which entrepreneurs seek to produce value under uncertainty. Entrepreneurs find and

frame problems that surround them. They compose theories to solve them. They test assumptions related to these theories. They compose preliminary solutions and evaluate feedback. Overall, they explore fit and the usefulness of their beliefs in guiding these actions (Bremner & Eisenhardt, 2022). Given our heavy focus on action throughout our paper, we must assume that the real objection here is to our analogy and characterization of entrepreneurs as scientists—individuals who seek to understand problems and create solutions in a science-like manner.

In Sergeeva et al.'s framing, scientists only learn, while engineers and designers do and act. Therefore, by associative logic, because entrepreneurs act, they cannot be scientists, or at least not solely scientists. Yet, for us and for pragmatism, the label scientist is not a role, but an approach—a set of both cognitive and physical actions focused on solving the problems at hand. Our paper's original working title was actually "Entrepreneurs as Pragmatist Scientists", adding the modifier "pragmatism" to ensure readers didn't view our entrepreneur-as-scientist analogy as suggesting entrepreneurs were only ivory tower scientists seeking to understand the world. A reviewer however correctly noted that the word pragmatism here was redundant, as scientists are pragmatists who use the scientific method to act and problem solve. In fact, for pragmatists all humans behave as scientists as they seek to address the problems that surround them. All humans frame problems, compose theories, test hypotheses, recalibrate them, and ultimately generate refined beliefs that are useful in guiding action (Dewey, 1938). Even infants and young children act as scientists as they seek to solve problems in their world (Gopnik & Meltzoff, 1997; Gopnik, Meltzoff, & Kuhl, 1999). Thus, not only are entrepreneurs scientists, but engineers and designers are scientists as well. They are pragmatist scientists, who adopt a quasi-scientific process to produce value under uncertainty. In fact, it is precisely in settings of uncertainty—in settings of "unknown unknowns" that a scientific approach is of particular value. Here both entrepreneurs and scientists select problems with unknown solutions, advance conjectures or theories about how to compose them, and then seek

evidence that tests what they form. Consistent with pragmatist thinking, we simply reject any real distinction between the average individual, the entrepreneur, or the scientist in their mode of scientific inquiry and problem solving. In fact, for pragmatists, even real scientists "are better thought of as solving puzzles than as gradually disclosing the true nature of things" (Rorty, 2007b, p.77). Consequently, any difference between "real scientists" and any other category of individual lies solely "in the problems with which they are directly concerned, not in their respective logics" (Dewey, 1938, p. 81).

Discovery, Creation, and the Pragmatist Alternative

The second and primary critique advanced by Sergeeva, Bhardwaj, and Dimov (2022) is that we are discovery theorists—that our pragmatist perspective focuses on "learning anchored on a determinative future" (p. 1)—one where "future opportunities" (p. 2) already exist and await discovery as "determinate objects against which to calibrate fit" (p. 4). The authors contrast our discovery logic with their alternative perspective in which the future is not only "unknown, but unknowable" and where the future "emerges as a result of actions" (p. 5).

First, given our heavy focus on action, on beliefs and theories, our emphasis on uncertainty, including the uncertainty about how to interpret feedback because it is theory laden, our primary focus on testing beliefs and not objects, we find it hard to reconcile the accusation that our narrative falls solely in the discovery camp. Rather, our entrepreneurs focus on a provisional theory about what they believe will work—a theory which will be labeled success or failure, or valuable or worthless, based on how effectively it solves a problem or enables the entrepreneur to address an unserved need in the market. The ultimate test for the productiveness of the theory is whether it results in a product accepted by consumers—a product with high product-market fit, which is a necessary condition for the product to create value in the long run (Gimmon & Levie, 2021). Thus,

and just like scientists, our entrepreneurs are not immediately jumping to test an object's fit, but rather are beginning with a problem, developing a theory to solve it, and then proceeding with actions that they hope will culminate in a solution that fits the market. Thus, contrary to Sergeeva et al.'s contention, our claim is not that future solutions exist in the present, but rather that problems exist in the present, and that by following a scientific process of creative problem framing, theory composition, testing, feedback, and updating, entrepreneurs compose solutions that enable novel products in the future.

We recognize however that claiming our paper was misread makes for rather boring dialogue in *AMR*. Fortunately, we have a much more provocative claim to make. Our claim is that a pragmatist perspective in entrepreneurship simply has little use for these epistemological debates. Whether the underlying market demand is discovered as the entrepreneur recognizes a problem, or is created by a novel problem framing, or is composed through a novel solution formulation, perhaps supported by a clever marketing effort, or is discovered through the feedback received is just not relevant to a pragmatist perspective. The key is describing the entrepreneur's quasi-scientific process rather than assigning it a label of made or found. This claim echoes the sentiments of pragmatists who have critiqued these debates in philosophy, suggesting that pragmatists have "little use for…the objective-subjective distinction" (Rorty, 2007b, p. 76) or the "made/found distinction" (Williams 2009, p. xxviii). As Williams explains, in pragmatism, individuals simply fix beliefs, that is they "make up theories and try to live with them; if they work out well, they count as discoveries." In this sense, Williams (2009, emphasis in original) notes: "Finding is *constrained* making." In other words, pragmatists constrain their making or creation actions with a theory that targets a future solution to a problem observed in the present. If the theory works—if it proves useful in solving the problem, we call it a discovery. Of course, there may be multiple theories that could "work" if explored, and thus multiple possible futures. But, the question of whether that future is made or

found is a debate of little interest or consequence to the pragmatist. Either way the entrepreneurs' actions are theory and problem based, as they follow a quasi-scientific process to produce value from uncertainty.

Importantly for pragmatists, to "fix" a belief does not initiate a causal, discovery-style march to a fully-formed, preconceived outcome (Haack, 2009; Peirce, Cohen, & Dewey, 2017). Instead, entrepreneurs fix beliefs to get going—to establish their priors. But these beliefs are quite provisional in nature and quite difficult to judge ex ante. Just like scientists, entrepreneurs take samples; they run experiments that inform how productive their theories are. And since much can go wrong in the process of forming, testing and responding, the belief's value often remains unknown even *after* the deployment of the three entrepreneurial actions we outline in our paper. With each step, uncertainty allows corresponding doubts to arise. To say that entrepreneurs are like scientists is thus not to say that "they get things right", as interpreted by Sergeeva, Bhardwaj, and Dimov (2022) (p. 6), but rather that they behave as scientists—that they follow a scientific process and that in doing so they increase their odds of finding value. They increase the odds of solving the problems they confront and frame. They increase the odds of composing a productive belief, updating with data and feedback, and ultimately producing value.

Some years ago, Richard Rorty famously admonished his fellow philosophers to set aside epistemological questions for a more productive, pragmatic pursuit. As he articulated, "instead of asking epistemological questions about sources of knowledge, or metaphysical questions about what there is to be known, philosophers should do what Dewey tried to do: help their fellow-citizens balance the need for consensus and the need for novelty." (Rorty, 2007a, p. 85). Our appeal to those seeking to advance entrepreneurship is precisely parallel—to set aside epistemological questions about what is known or knowable or whether valuable production represents creation or discovery (Ramoglou & Gartner, 2022), and instead take up the pragmatist agenda of providing guidance to

entrepreneurs seeking to generate novel value, while also providing guidance about how to build consensus, basic support, or resources necessary to pursue it. Our claim is that these epistemological debates are of limited consequence in advising the entrepreneur who seeks to act pragmatically—to solve a problem by acting as a pragmatist scientist. Such individuals seek out novelty enabled by uncertainty; they seek out useful, but abnormal beliefs. They seek to then discover if actions derived from these abnormal or contrarian beliefs (Felin, Gambardella, & Zenger, 2021) will produce value amidst uncertainty. When these beliefs, most often expressed in sentences, are "working out well," we may assign the label opportunity (or discovered opportunity) to the achieved result—analogous to what the philosopher might label as truth. But as Rorty describes with pragmatist flair, this label "truth is simply a compliment paid to sentences seen to be paying their way" (Rorty, 1982, p. 13).

Final Thoughts

For pragmatists of course, the real test of any theory, including ours, is whether the theory works—whether it pays its way—whether the consequences of acting upon it are pragmatically useful (Rorty, 1979). Our theory of entrepreneurs as scientists is meant to be both descriptive of entrepreneurs, and normative—a description of both how they act and how they should act. Therefore, true to pragmatism, the real test of our pragmatist theory of entrepreneurship, where entrepreneurs behave as scientists, is how entrepreneurs who read this theory as articulated by us and others (e.g., Sergeeva, Bhardwaj, & Dimov, 2021), and believe it to be true (or at least productive), act differently, and whether the outcomes that result are superior.[1] Of course, part of the challenge in pursuing this test is creating descriptions of this theory that are accessible and actionable for entrepreneurs. Early efforts to provide such accessible description (Eisenmann, 2021; Felin et al., 2021) and efforts to teach entrepreneurs to act like scientists (Camuffo, Cordova, Gambardella, & Spina, 2020) point to a

[1] We appreciate Joe Mahoney for conveying this point to us in private communication.

theory that is "working out well" and "paying its way." When entrepreneurs are taught to act like scientists, the current evidence is that entrepreneurial outcomes are significantly improved (Camuffo et al., 2020).

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