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# Beyond bridging rigor and relevance: The three-body problem in entrepreneurship

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"*Simplicity before understanding is simplistic; simplicity after understanding is simple.*"-Eduard de Bono

## 1. Introduction

If we have two bodies that interact gravitationally, and we know their positions and velocities at a given point in time, it is possible to predict all their future positions. However, the introduction of a third body surprisingly leads to a problem that is analytically unsolvable. This suggests that if we have a system of two bodies that are unsettled with respect to one another, there may be a hidden third body lurking around that, if identified and understood, could help us make better sense of the system as a whole. While metaphors should be used with care, the three-body problem can help illuminate a pressing epistemological issue within our own discipline.

In the entrepreneurship field and indeed the broader field of management, the two main bodies in play are theory and practice. Compared to more internally oriented disciplines such as physics, psychology, and sociology, scholars in professional fields such as engineering, medicine, management and entrepreneurship have an imperative to not only be scientifically rigorous but also develop knowledge that can inform practice (Romme, 2016). However, since theory and practice are quite different, managing these dual demands is challenging, both epistemologically and organizationally. The epistemological focus of theory is typically true and generalizable representations of reality developed through appropriate methods,[1] whereas the world of entrepreneurial practice is propelled by knowledge of how to deal with specific problematic situations as they arise (Kieser and Leiner, 2009). Organizationally, scholars in professional schools have also shown a tendency to separate into two groups over time (Gulati, 2007; Simon, 1967). Theory-oriented scholars risk shielding themselves from practice and may gradually begin to nurture an intra-disciplinary culture where goals, values, and approval are sought only among academic peers. In contrast, practitioner-oriented scholars risk seeing theory as esoteric and irrelevant and by doing so may end up as "slightly out-of-date purveyor[*s*] of almost-current business practice" (Simon, 1967: 12).

While this description is an exaggeration, it nevertheless highlights a real tension. The entrepreneurship field is quite internally and theoretically oriented, but its scholars also feel a strong "gravitational" pull from the world of practice through demands for experiential entrepreneurship courses, proof of how research results have practical impact, and the formulations of "Executive

[1] There is of course a range of more relativist positions, but so long as truth is seen as relative to institutional or personal frameworks for assessment, and not explicitly to practical utility, this diversity of theories does not undermine our distinction between theory, practice, and design.

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Summaries" in otherwise research oriented journals such as the Journal of Business Venturing. Similarly, practitioners are attracted by actionable knowledge that can inform their situated judgments and actions. Unfortunately, scholars have a hard time squaring theoretical ambitions with the concerns of practitioners, which are often considered to be theoretically uninteresting. As a result, entrepreneurship teachers often rely on books like "The Lean Startup" (Ries, 2011) or "The Startup Owners-Manual" (Blank and Dorf, 2012), which are not grounded in research, precisely because they provide the kinds of hands-on and prescriptive advice that students and entrepreneurs want.

Our experiences as teachers as well as consultants thus point to the existence and desirability of a third body of such pragmatically oriented design knowledge that cannot be reduced to either general theoretical principles or the situated knowledge of practicing entrepreneurs (Dimov, 2016). This practical intuition is echoed by established theoretical typologies (Flyvbjerg, 2001). Aristotle famously spoke of three approaches[2] to knowledge: *episteme*, which denotes context-independent and value-free 'know why' theories about the world that are universally true; *techne*, which denotes context-dependent, pragmatic and goal-oriented 'know how' techniques for effectively doing things in light of given goals; and *phronesis*, which denotes the capacity for judgmental and wise action performed in real time under uncertain conditions. The world of theory arguably maps quite well onto the Aristotelian concept of *episteme,* whereas *phronetic* knowledge is clearly needed in the uncertain world of entrepreneurial practice. This leaves *techne* as a natural candidate for our missing third body of knowledge—not least since its emphasis on 'know how' and pragmatic validity clearly resembles the prescriptive techniques outlined in practitioner-oriented entrepreneurship-books.

The purpose of this special issue is therefore to outline a distinct third body of knowledge in the form of pragmatically oriented *entrepreneurial design principles,*[3] to discuss whether it deserves a position on par with theory and practice, and to explore its interfaces with both the causal mechanisms of entrepreneurship theory and the complex realities of entrepreneurial practice (c.f. Romme and Endenburg, 2006; Van Burg et al., 2008). By design principles we mean context specific and pragmatic heuristics that prescribe actions often with the following syntax: 'to achieve X in situation Y, something like Z will help' (Van Aken, 2004: 227). By highlighting design as a valuable third body of knowledge, in this virtual special issue we depart from the commonly proposed way to bridge the rigor-relevance gap that simply encourages closer collaboration and more intimate involvement of practitioners in the research process (e.g. Shapiro et al., 2007; Starkey and Madan, 2001). While such closeness may very well be valuable, we submit that interlocking theory and practice is not be the best option to produce a stable system. Instead, we follow Simon (1996) who argued for a science of design whose purpose is not to produce descriptive theories of the world as it is, but rather to develop pragmatic tools "in the service of action" (Romme, 2003, p. 562).

## 2. Entrepreneurship Scholarship as a two and three-body problem

Most entrepreneurship research is premised on the very basic assumption that there are regularities in the world that underlie phenomena such as new venture creation and that the purpose of theory development is to identify and explain those regularities, preferably in the form of causal mechanisms (e.g. Busenitz et al., 2003; Carlsson et al., 2013; Davidsson, 2004; Shane, 2003; Venkataraman, 1997). Such enquiry is generally underpinned by philosophical realism, where the central criterion for good theory is whether it is true in the sense of accurately representing reality and explaining how specific phenomena come about (Berglund and Korsgaard, 2017; Hedström and Wennberg, 2017; Hedström and Ylikoski, 2010; Kim et al., 2016). The two major activities of research in this tradition are generation and testing of theory against observed practical phenomena. These are outlined in Fig. 1 below and capture the currently dominant focus of journal papers.

As discussed above, the gravitational pull that exists between the two appear insufficient to provide a stable bridge between theoretical rigor and practical relevance. This is in no small part due to the inherent difficulties one faces when attempting to capture the details and idiosyncrasies of entrepreneurial judgment and practice in theoretical formulae, and similarly when attempting to apply universal theories in situations that require situated judgment (Berglund, 2015). The two-body system of theory and practice is not stable and people struggle to make sense of it (Kieser and Leiner, 2009).

The solution we propose is to acknowledge design as a third body of knowledge that can complement and mediate between theoretical and practical knowledge by providing prescriptive design principles (cf. Van Aken, 2004). Such a focus on pragmatically valid and managerially relevant design principles is not entirely new to the entrepreneurship field (see Romme, 2016 and the overview in Mansoori, 2018). A number of scholars have sought to develop practically useful theories of entrepreneurship, e.g. in the form of experimental approaches and tools to guide iterative planning in the face of uncertainty (e.g.McGrath and MacMillan, 2000) and heuristics for transformation with an eye to the future as created rather than discovered (Sarasvathy, 2009). However, to date this role has primarily been filled by reflective practitioners who have turned their tacit knowledge and practical experiences into explicit and prescriptive theories of how to develop new businesses under uncertain conditions (Blank, 2013; Ries, 2011; Savoia, 2011). Whether practitioners and academics call their theories customer development (Blank and Dorf, 2012) or lean startup (Ries, 2011), effectuation (Sarasvathy, 2009) or discovery-driven planning (McGrath and MacMillan, 1995), they all share an action-oriented view of entrepreneurship and embrace the pragmatic notion that theories are tools for business design, whose validity is related to their ability to help get things done (Berglund and Wennberg, 2016).

[2] While Aristotle also spoke about *sophia* and *nous* (wisdom and intellect) as two other approaches to knowledge, most contemporary philosophy of science treats these as beyond the domain of science.

[3] While "design principles" will be elaborated throughout the text, we already here want to emphasize that it should not be confused with the more specific concept "design thinking". To clarify, design thinking is but one instance of the broader category or body of knowledge that sometimes emphasizes pragmatic design principles.

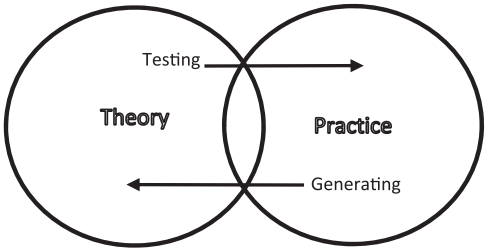


**Fig. 1.** Current focus of journal publications.

These developments reinforce the distinction between theory and design as two bodies of knowledge with very different goals (Romme, 2003). Unlike theory, design takes a pragmatic view of knowledge meaning that a design principle is considered good if it is useful (Berglund and Wennberg, 2016). While the former focuses on theorizing and justifying, the latter instead focuses on building and evaluating (March and Smith, 1995).

Entrepreneurial practice calls for prescriptive procedural knowledge, i.e. methods for carrying out particular tasks (March and Smith, 1995) or 'design instrumentalities' that guide action by suggesting procedures, ways of thinking, and judgment skills (Vincenti, 1990). Such design principles are often formulated based on reviews and syntheses of prior research on causal mechanisms, contextual conditions, and outcome patterns (e.g. Van Burg and Romme, 2014), on extrapolations from practical entrepreneurial experiences (e.g. Ries, 2011), or preferably a combination of the two. As design principles become applied, one can begin answering the questions of whether they are useful. Because these questions are posed in the context of a specific kind of problem, reflection or evaluation of what has worked and what has not can pose questions about: (1) the effectiveness of the specific actions to solve the specific kind of problem, (2) the effectiveness of the design principles in suggesting specific actions, and (3) the effectiveness of the body of knowledge (e.g. causal mechanisms and contextual conditions) from which the design propositions have been derived. Answering these questions can then lead to improvements in the application of principles, improvements in the principles themselves, and improvements in the underlying theoretical knowledge.

This interplay between theory, design, and practice is illustrated in Fig. 2 below. It reveals a third body (design) that balances and helps make sense of the uneasy relationship between theory and practice. It also highlights two interfaces that this special issue aims to address: (1) between the causal mechanisms of theory and the pragmatic principles of design and (2) between design principles and entrepreneurial practice.

## 3. This virtual special issue

Through this virtual special issue, we seek to bring attention to design principles as a third body of knowledge that complements theory and practice, and to the value of more reflective efforts to translate general theory into actionable design interventions in order to make them useful for practice. However, design principles are not merely a matter of translating general theory into an intermediate form that has the potential to inform concrete practice. In order to establish their pragmatic validity, design principles also need to be tested in practice, an activity that can in turn also inform our theories. This leads us to the following focus for this special issue.

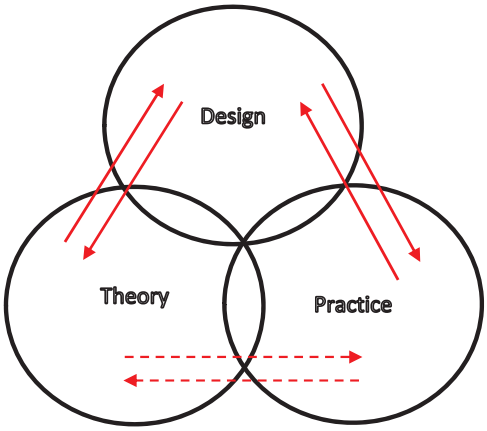


**Fig. 2.** The space of this special issue.

## 4. Theory < = > Design

The relationship between theory and design goes both ways. First, theoretical knowledge can be used to develop design principles. This is different from the executive summaries and boilerplate section on practical implications that comes at the end of otherwise theoretically oriented papers. Instead we seek contributions that extend beyond theoretical insights in an effort to formulate effective design principles. Thinking about design can help highlight the various ways in which our theories may be processually incomplete for practical purposes. For instance, Dimov (2010) highlights the important role that early planning can play in the entrepreneurial process. The theoretical contribution was that early planning can help determine if an entrepreneurial opportunity is worth pursuing further. When thinking about how this may be turned into a design contribution, the recommendation to "plan early" immediately comes across as too abstract and ambiguous – what does it really mean? The construct was operationalized by items such as "developing financial forecasts" and "talking to customers" (Dimov, 2010, p. 1138). However, this is also not clear enough to enable a prescription; what does one talk about? And how does one identify or find "customers"? What we would like to see are papers that draw on sound theory to develop explicit and practically useful design principles.

The biggest potential for making substantive design contributions may lie in the synthesis of a body of work through a literature review with the explicit goal of formulating design propositions (cf. Van Burg and Romme, 2014). Unlike meta-analyses that focus on the determining the stability in statistical associations across various samples, the synthesis should focus on building a coherent map of causal mechanisms that can in turn be used to articulate specific pragmatic design interventions.

Going the other way, from design to theory, we invite contributions that investigate existing design principles in an effort to improve our theoretical understanding of the causal mechanisms that underpin them. Such efforts will typically start with design principles that already exist among entrepreneurial practitioners and evaluate what their theoretical basis might be, e.g. whether they are based on a clear understanding of the mechanisms they trigger. One example is Shane and Delmar's (2004) efforts to reconstruct mechanisms that can explain business planning as a rational practice. A similar example may be to reconstruct the social mechanisms and theories of action implicitly assumed in non-planning oriented entrepreneurial design principles, such as those of effectuation (cf. Berglund and Korsgaard, 2017).

## 5. Practice < = > Design

The relationship between practice and design is also bidirectional. First, there is the implementation of specific design principles for the attainment of desired outputs in specific contexts. This can be formulated as pedagogic or policy interventions where some design principle is used in an attempt to affect entrepreneurial practice, or in action research where the focus on solving particular problems calls for more explicit consideration or evaluation of design principles. How are such design principles used, are they useful, for whom, and when? Can design principles be applied unambiguously to affect entrepreneurial practice or do they require some accompanying judgment calls? One application of this can be in educational settings, where the teaching of entrepreneurial design principles could be assessed in terms of whether their adoption by students in experiential projects requires continuous support or perhaps requires some foundational knowledge to be delivered beforehand. Similarly, the adoption of entrepreneurial design principles within existing organizations can bring attention to the need to relate design principle prescriptions to prevailing cultural norms, organizational structures, or established work processes. An example is Mansoori's (2017) analysis of what and how entrepreneurs learned as part of an accelerator program batch guided by Lean Startup Principles.

Similarly, interventions based on design principles can be refined in view of the specific features of the context. If some well-established design principles are problematic in some context, why is this the case? Is it because of industry, country, venture phase or some other contingency? Do the results suggest that the design principles should be modified or that they should be applied differently? For example, Lean Startup principles are often described as useful when founders have a relatively clear vision that can broken down into explicit hypotheses (e.g. regarding customer problems and value propositions) and experimentally tested for feedback from potential customers. However, this may not be suitable in very early stages when such a vision is not yet in place, or more generally if entrepreneurs want to solicit more creative input from external stakeholders (cf. Berglund, 2007).

Second, explorations of entrepreneurial practice can be used to develop new design principles. However, we would caution from formulating design principles based solely on experience, descriptive data or correlations. Doing so would risk building interventions from naive empiricism, which would mimic much of the practitioner oriented books on entrepreneurship, namely to develop normative methods based on experience without going through the work of identifying and explaining the underlying causal mechanisms. While practice is important, we favour a process where practice is combined with theory in the process of proposing new design principles (cf. Van Aken, 2004). An example of a study that explicitly addresses both the theory-design and practice-design interfaces is Van Burg et al. (2008) who used an initial set of theory-based design principles to redesign and adapt several aspects of an ongoing spinoff incubation program at a Dutch university.

## 6. A virtual, open issue

Rather than writing our introduction last, to make sense of papers already finished, we start with our introduction to make space for papers not yet begun. As such, the issue sets a beginning but no foreseeable end.

This is a virtual special issue (VSI) in that papers operate as part of the normal flow of the journal, but are designated as being submitted to and, if successful, as part of the special issue. If accepted, articles will appear in the first available regular issue and simultaneously articles appear in a new section set up specifically for the journal and dedicated to VSIs.

Thus, the content of the special issue can be called up at any time and it will be continuously expanding. Unlike a retrospective virtual special issue in which previously published papers that address a particular topic can be collated into a finite collection, this is a prospective special issue in that it will be live and continuously evolving.

Let the body of Design come alive.

## References


Berglund, H., 2007. Opportunities as existing and created: a study of entrepreneurs in the Swedish mobile internet industry. J. Enterprising Cult. 15, 243–273.

Berglund, H., Korsgaard, S., 2017. Opportunities, time, and mechanisms in entrepreneurship: on the practical irrelevance of propensities. Acad. Manag. Rev. 42, 730–733.

Berglund, H., Wennberg, K., 2016. Pragmatic entrepreneurs and institutionalized scholars? On the path-dependent nature of entrepreneurship scholarship. In: Landstrom, H., Parhankangas, A., Fayolle, A., Riot, P. (Eds.), Challenging Entrepreneurship Research. Routledge, pp. 37–52.

Blank, S., 2013. Why the lean start-up changes everything. Harv. Bus. Rev. 91, 63–72.

Blank, S., Dorf, B., 2012. The Startup Owners Manual 1 K&S Ranch. Inc. Puplishers, California.

Busenitz, L.W., West III, G.P., Shepherd, D., Nelson, T., Chandler, G.N., Zacharakis, A., 2003. Entrepreneurship research in emergence: past trends and future directions. J. Manag. 29, 285–308.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., Ylinenpää, H., 2013. The evolving domain of entrepreneurship research. Small Bus. Econ. 41, 913–930.

Davidsson, P., 2004. Researching Entrepreneurship. Springer, New York.

Dimov, D., 2010. Nascent entrepreneurs and venture emergence: opportunity confidence, human capital, and early planning. J. Manag. Stud. 47, 1123–1153.

Dimov, D., 2016. Toward a design science of entrepreneurship. In: Corbett, A.C., Katz, J. (Eds.), Models of Start-up Thinking and Action: Theoretical, Empirical and Pedagogical Approaches. Advances in Entrepreneurship, Firm Emergence and Growth. Emerald Group Publishing Limited, pp. 1–31.

Flyvbjerg, B., 2001. Making Social Science Matter: Why Social Inquiry Fails and How it Can Succeed Again. Cambridge university press.

Gulati, R., 2007. Tent poles, tribalism, and boundary spanning: thethe rigor-relevance debate in management research. Acad. Manag. J. 50, 775–782.

Hedström, P., Wennberg, K., 2017. Causal mechanisms in organization and innovation studies. Innovation 19, 91–102.

Hedström, P., Ylikoski, P., 2010. Causal mechanisms in the social sciences. Annu. Rev. Sociol. 36, 49–67.

Kieser, A., Leiner, L., 2009. Why the rigour–relevance gap in management research is unbridgeable. J. Manag. Stud. 46, 516–533.

Kim, P.H., Wennberg, K., Croidieu, G., 2016. Untapped riches of meso-level applications in multilevel entrepreneurship mechanisms. Acad. Manag. Perspect. 30, 273–291.

Mansoori, Y., 2017. Enacting the lean startup methodology: The role of vicarious and experiential learning processes. Int. J. Entrepreneurial Behav. Res. 23 (5), 812–838.

Mansoori, Y., 2018. Entrepreneurial Methods as Vehicles for Entrepreneurial Action., PhD Dissertation. Chalmers University of Technology nr: 4320. https://research.chalmers.se/en/publication/252107.

March, S.T., Smith, G.F., 1995. Design and natural science research on information technology. Decis. Support Syst. 15, 251–266.

McGrath, R.G., MacMillan, I.C., 1995. Discovery Driven Planning. Wharton School, Snider Entrepreneurial Center Philadelphia.

McGrath, R.G., MacMillan, I.C., 2000. The Entrepreneurial Mindset: Strategies for Continuously Creating Opportunity in an Age of Uncertainty. Harvard Business Press.

Ries, E., 2011. The Lean Startup: How Today's Entrepreneurs use Continuous Innovation to Create Radically Successful Businesses. Crown Business, New York.

Romme, A.G.L., 2003. Making a difference: organization as design. Organ. Sci. 14, 558–573.

Romme, G., 2016. The Quest for Professionalism: the Case of Management and Entrepreneurship. Oxford University Press.

Romme, A.G.L., Endenburg, G., 2006. Construction principles and design rules in the case of circular design. Organ. Sci. 17, 287–297.

Sarasvathy, S.D., 2009. Effectuation: Elements of Entrepreneurial Expertise. Edward Elgar Publishing.

Savoia, A., 2011. Pretotype It-Make sure you are building the right it before you build it right. Second Edition. 〈http://www.pretotyping.org/uploads/1/4/0/9/14099067/pretotype_it_2nd_pretotype_edition-2.pdf〉.

Shane, S., 2003. A General Theory of Entrepreneurship. The Individual-Opportunity Nexus. Edward Elgar, Northampton, MA.

Shane, S., Delmar, F., 2004. Planning for the market: business planning before marketing and the continuation of organizing efforts. J. Bus. Ventur. 19, 767–785.

Shapiro, D.L., Kirkman, B.L., Courtney, H.G., 2007. Perceived causes and solutions of the translation problem in management research. Acad. Manag. J. 50, 249–266.

Simon, H.A., 1967. The business school a problem in organizational design. J. Manag. Stud. 4, 1–16.

Starkey, K., Madan, P., 2001. Bridging the relevance gap: aligning stakeholders in the future of management research. Br. J. Manag. 12.

Van Aken, J.E., 2004. Management research based on the paradigm of the design sciences: the quest for field-tested and grounded technological rules. J. Manag. Stud. 41 (2), 219–246.

Van Burg, E., Romme, A.G.L., 2014. Creating the future together: toward a framework for research synthesis in entrepreneurship. Entrep. Theory Pract. 38, 369–397.

Van Burg, E., Romme, A.G.L., Gilsing, V.A., Reymen, I.M., 2008. Creating university spin-offs: a science-based design perspective. J. Product. Innov. Manag. 25, 114–128.

Venkataraman, S., 1997. The distinctive domain of entrepreneurship research: an editor's perspective. In: Katz, J., Brockhaus, R.H.S. (Eds.), Advances in Entrepreneurship, Firm Emergence, and Growth. JAI Press, Greenwich, CT, pp. 119–138.

Vincenti, W., 1990. What Engineers Know, and How They Know It. Johns Hopkins University Press, Baltimore, MD.



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