

The Entrepreneurial Scholar

GAME CHANGERS AND GROUND BREAKERS

This series is an important forum for leading academics to envisage an alternative future for business schools and academia in general. The series is open to those who have something interesting to say on academic impact and relevance, academic and teaching assessment systems, the direction of business schools and the future of universities. Books in this series may be controversial or brave and will be insightful in pointing the ahead way for scholars, business schools and universities.

Titles in the series include:

Resolving the Crisis in Research by Changing the Game
An Ecosystem and a Sharing Philosophy
Morten Huse

The Entrepreneurial Scholar
Dimo Dimov

The Entrepreneurial Scholar

Dimo Dimov

*Professor of Entrepreneurship and Innovation,
University of Bath, UK and Visiting Professor,
Reykjavik University, Iceland*

GAME CHANGERS AND GROUND BREAKERS



Edward Elgar
PUBLISHING

Cheltenham, UK • Northampton, MA, USA

© Dimo Dimov 2020

Cover Image: M.C. Escher's 'Drawing Hands' © 2020 The M.C. Escher Company – the Netherlands. All rights reserved. www.mcescher.com

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical or photocopying, recording, or otherwise without the prior permission of the publisher.

Published by
Edward Elgar Publishing Limited
The Lypiatts
15 Lansdown Road
Cheltenham
Glos GL50 2JA
UK

Edward Elgar Publishing, Inc.
William Pratt House
9 Dewey Court
Northampton
Massachusetts 01060
USA

A catalogue record for this book
is available from the British Library

Library of Congress Control Number: 2020936542

This book is available electronically in the **Elgaronline**
Business subject collection
DOI 10.4337/9781789906721

ISBN 978 1 78990 671 4 (cased)
ISBN 978 1 78990 672 1 (eBook)

*“The end of certainty means the possibility of novelty, of
evolution.”
Ilya Prigogine*

Contents

<i>List of figures</i>	viii	
<i>Preface</i>	ix	
1	Scholarship, knowledge, concepts	1
2	Entrepreneurship as an academic subject	16
3	Knowledge and reality	30
4	Scholar and entrepreneur	41
5	A framework for scholarly enquiry	59
6	Awakening the entrepreneurial scholar	73
7	Conclusion	80
<i>References</i>	81	
<i>Index</i>	84	

Figures

1.1	Denotation and reference	10
1.2	Cycle of thinking	14
3.1	Thought models of reality	32
4.1	Commitment to thought model versus holistic case	43
4.2	Scholarly choice of precision versus scope	44
4.3	Scholarly choice of descriptive versus design science	53
4.4	Hierarchy of human activity	57
5.1	Styles of scholarship	61
5.2	Framework for scholarly contributions	63
6.1	Calibrating forces	74

Preface

For almost 20 years now, I have grappled with a simple question: why are things obvious and logical in hindsight, and invisible and ambiguous in foresight? This question lies at the heart of understanding entrepreneurship and innovation, particularly in their more radical or disruptive sense. We love the stories of bad judgement from the past: the president of IBM predicting a global market of maybe five computers, Artur D Little predicting limited market potential for the Xerox photocopier, Nokia's chief strategist dismissing the iPhone as an obscure niche play.

We know intuitively that these stories will repeat themselves, that the future will be different in ways that we cannot anticipate, that meaning and ways of life will evolve. Perhaps the biggest fallacy that comes out of the stories is that not repeating them is a question of more and better – more information, better models – and thus that there is a way that people could have known better. This is a quest for certainty, seeking what Dewey (1960) calls ‘antecedent possession of actuality’. The image of Baron Munchausen comes to mind, trying to pull himself up by his hair. In a way, it captures the interplay between knowledge and future. We tend to think of knowledge as something secure, a wall to which we add bricks one by one, a foundation on which to build the future. But the future is also a foundation on which to build our knowledge, signalling what is right or wrong, more or less useful, suggesting bricks to be removed, starting new branches or settling new areas.

Think of the word ladder game, allegedly invented by Lewis Carroll, in which one connects two initial words via

a chain of successive words that differ only by one letter; for example, going from COLD to WARM through the following chain: COLD → CORD → CARD → **WARD** → WARM. Through a chain of incremental steps, one enters new spaces of meaning. The game can be open-ended, continuing on to WARN → **BARN** → **BORN**, and so on. It can get even more interesting if we intermix languages or start making up words and meanings on the go. The game can be continuously reinvented, acquiring vibrancy in the hands of those who play it. But it nevertheless retains a thread of continuity that connects the past and future, taking it back to some starting words or old meaning.

This simple game ushers us into the world of entrepreneurship as a constant interplay between value and meaning. It is the sense that the future will be vastly different – with new goods, services and ways of organizing – and continuous with the present that makes entrepreneurship a distinct domain of scholarship (Venkataraman 1997). Very fittingly, when this was articulated just over 20 years ago, Airbnb, AliBaba, the Cloud, Facebook, Google, Instagram, LinkedIn, Lyft, Netflix, PayPal, Salesforce, Snapchat, Twitter and Uber – to name just a few – did not exist. We were still using film cameras and VHS tapes, the iPhone was still on the drawing board and Netflix was launched to rent DVDs via mail. Much of what has happened had been unexpected, and much of what had been expected has not happened. The world does not stand still, brimming with efforts to change it.

This is an exciting domain to be a scholar, for you are never short of questions and never full of answers. But for a domain in which value and meaning do not stand still, what does it mean to be a scholar? Scholarship has typically been associated with contemplation, pitting a thinking mind against an external world. This works when the external world consists of facts that we are to weave together into a coherent meaning (for us). Facts speak for themselves. But what if facts speak *with* ourselves, as when the world we study consists of other

humans and the meaning they create, sustain, evolve, and supplant? We are, of course, part of that world and the product of our scholarship also needs to be part of it. Imagine a world of physics where atoms could speak, and the physicist realizes that she is an atom herself.

Imagine thinking about a theory of something, whereby your thinking process is a very example of the theory you are trying to develop. You are trying to capture in your mind yourself trying to capture yourself in your mind. Hofstadter (2007) refers to this as a strange loop of self-reference and sees it as the origin of consciousness, of the meaning of 'I'. In this vein, there is an interesting question of consciousness at the level of scholarship, of the scholar as the subject of scholarship.

Hofstadter shows that self-reference lies at the core of Gödel's famous incompleteness theorem, establishing the limitations of formal axiomatic systems in the tradeoff between completeness and consistency. A formal system, if it is to be consistent, is incomplete, that is, there are certain truths that it cannot prove. At the same time, if it is deemed complete, it ends up making statements about itself that cannot be proven within it. This offers a parallel for the interplay between knowledge and future, with knowledge representing consistency and future representing completeness. Within the strict conditions for what we can call 'knowledge', there are actions and future states that cannot be justified. And with the imagination of different futures, there are valid arguments both for and against their desirability or attainability, with no consistent way of weighing the two.

With scholars pursuing knowledge of entrepreneurship, and entrepreneurs pursuing a different future, entrepreneurial scholarship is faced with the dynamic relationship between knowledge and future. What defines entrepreneurs as such is the future they aim to bring about through their actions; and what defines scholars as such is the knowledge they aim to create through their practices. Entrepreneurs thus seek to

put knowledge in the service of the future, and scholars seek to put the future in the service of knowledge. Engaging with this tension, this book explores the relationship between the study of entrepreneurship and the entrepreneurs we study. With entrepreneurs playing a distinct role in society, it invites a reflection on the role and place of entrepreneurial scholarship in society.

Coming into academia from practice highlighted a divide between contemplation and action. A practical self is concerned with problems to be solved, with setting things in motion; retaining a sense of how knowledge can be useful, how it can be applied to solve current challenges. A contemplative self is concerned with finding certainty and universal truths, with escaping from the world to hold it still in an ideal. My PhD training and socialization reinforced the idea that, in the pursuit of contribution to theory, we were not to be concerned with practical relevance. This attitude rested on an implicit distinction between knowing things and using them. Our academic community was to focus on knowing things. Others were to focus on doing and making use of what we know. Without a close link between the two, keeping one another in check, knowing gets isolated in a world of rigorous abstraction, and doing gets isolated in a world of concrete coping. The rigour–relevance gap simply reflects such divergence: the rigorous is often seen as irrelevant, and the relevant seen as lacking rigour.

This gap is a symptom of an underlying dualism of knowing and doing, of theoretical contribution and practical relevance. To the extent that scholarship remains on one side of this divide, the gap is difficult to close. If scholarship became more holistic and dynamic, the gap would simply disappear. Theory would become an aid to practice, not a distortion of it. And practice would become an aid to theory, not a degradation of it.

The book aims to make the case and set the stage for such scholarship. It brings together an eclectic range of philosoph-

ical ideas to help outline different ways of conceptualizing and engaging with the entrepreneurs we study. Operating outside of strict disciplinary boundaries, it draws parallels and contrasts, mixes and matches ideas, articulates provocations in order to disclose things in a new light. In setting up its main argument, the book provides a basic discussion of elementary notions such as scholarship, knowledge, concepts and theory, presenting them as instrumental parts of a broader cycle of thinking. This discussion is not meant to be comprehensive or authoritative, but rather to provide intuitive interpretation and prompt further reflection.

The main argument of the book is that entrepreneurial scholarship operates through four distinct styles, each defined by two implicit choices that scholars make in engaging with the entrepreneurs they study. To the extent that we tend to emphasize only one of these styles, there is much room to expand and develop our scholarly practices. This entails embracing (1) interdisciplinarity as a way of engaging with entrepreneurship as a holistic experience, and (2) design science as a way of improving the art and skills of entrepreneurship.

The content of the book is organized in six chapters. Chapter 1 reflects on the nature of scholarship as operating in a domain of (theoretical) knowledge, and the nature of concepts as the building blocks of the knowledge domain. The realms of theory and practice are entwined through processes of denotation of objects by concepts and of reference of concepts to objects. We retain experience in concepts and use them to give meaning to new actions.

Chapter 2 focuses on entrepreneurship as an academic subject. It discusses the challenge of defining its boundaries and revisits the familiar debate on whether entrepreneurship is just a phenomenon to be explained by other knowledge domains, or is its own distinct domain. To the extent that an action becomes 'entrepreneurial' when it is oriented towards changing the world in a particular way, the 'cockpit' for such change has an irreducible first-person ontology. At the same

time, the action is inherently social, as it affects and is affected by others.

Chapter 3 explores the boundaries of academic disciplines as defined by the thought models they use. In this sense, the domain of entrepreneurship is intersected by many academic disciplines, each focusing on certain aspects of it and blurring out others. This poses a question of loyalty for the academic scholar, of whether to understand entrepreneurship as a holistic realm of practical reasoning or explain entrepreneurship by organizing facts within a specific theoretical model.

Chapter 4 examines the relationship between scholar and entrepreneur. It recasts the question of loyalty in terms of the tensions between precision and scope in defining the basic building blocks of our inquiry. The values underpinning the inquiry are then defined in terms of a relationship with an external reality (objectivity) or contribution to a particular community (solidarity). They invite us to look *at* entrepreneurs and see their past, or *with* entrepreneurs and explore their future. This creates an important distinction between descriptive and design science as modes of inquiry, each pursuing different utility.

Chapter 5 puts these distinctions together into a framework of scholarly inquiry, highlighting four distinct styles and contributions: theoretical, integrative, craft and clinical. They reflect two fundamental choices that scholars can make in approaching the subject of study: (1) isolating specific aspects of entrepreneurship in search of precision versus merging different viewpoints into a holistic case of entrepreneurial practice; and (2) engaging in descriptive science to establish and relate facts about the world as it is versus engaging in design science to produce instrumental knowledge for enhancing the art and skill of entrepreneurship.

Chapter 6 discusses how the framework of scholarly inquiry can be put in motion. It portrays each style of inquiry as an intersection of two calibrating forces: isolating/merging and representing/coping. Navigating all four styles ensures the

connection of the partial and the whole, of theory and practice. It turns inquiry into an ever expanding spiral, whereby each style plays a distinct role in keeping the cycle in motion.

Wakey wakey, entrepreneurial scholar!

1. Scholarship, knowledge, concepts

A book about scholars needs to start with a basic sense of what scholarship is. This is not an easy task as it would set us on a difficult path in seeking precision about what knowledge is, about whether there are different types of knowing and about whether knowledge is derived for its own sake or is entwined with other purposes. I will start with the simplest possible sense, trying to stay clear of the slippery edges, before mustering the courage to peek over them.

SCHOLARSHIP AND ITS THREE ROLES

Scholarship implies devotion to (academic) study of a particular subject, whereby one develops over time an expertise or deep knowledge of that subject. Such knowledge is typically conceptual in nature – as opposed to the practical, embodied knowledge one develops as a practitioner – and it enables the expert scholar to highlight key essences and relationships of the subject area, expressed in abstract categories of thought. The major activity of a scholar is thus to think. Thinking involves finding a level of abstraction that enables us to grasp the essence of the entities, situations, processes and events that the subject area encompasses. We typically use the terms ‘scholar’ and ‘academic’ interchangeably, and see the place of an academic in a university or other institution of higher education.

Within a university an academic operates at three distinct interfaces, captured by the familiar workload models that

exist across universities, albeit in different forms: research, teaching and service (or engagement). In the broadest terms, research is about the generation of new knowledge. Teaching is about the codification and transfer of such knowledge to others; it is fundamental to the transmission and learning of social practices. Service is about a contribution to the operation of the university, region or society.

Each of these activities has distinct practices that define what constitutes good performance. In research, they relate to standards of impact, originality and rigour. In teaching, it is about specifying learning outcomes and applying pedagogical principles. In service and engagement more broadly, it is about attuning to the problems, language and practices of particular communities. Through their distinct practices, the three activities pull the academic in different directions. Yet, they also keep one another in check, thereby creating an adaptive system for engaging with the world. The essence of scholarship thus lies in the ability to operate at all three interfaces, not losing sight of the broader system. The reality of academic life, however, is that when the relative status of the three activities becomes disbalanced – with research typically gaining the upper hand – people tend to specialize in or prioritize one of these activities. This creates a vicious cycle whereby emphasis on research diminishes concerns for pedagogy and isolates the academic from the communities of practitioners.

NUANCES IN KNOWLEDGE AND SUBJECT AREA

Let us consider for a moment two persons totally devoted to the subject of football (soccer): one is immersed in playing it and the other in observing it and commentating on it. They both develop deep knowledge of football: for one, the knowledge is practical in nature, such as a tacit ability to control, pass and shoot the ball in various ways; for the other the

knowledge is conceptual or theoretical, creating categories that distinguish different ways of controlling, passing and shooting and describe football as a type of sports game. In this sense, both persons are experts in the subject.

Conceptual knowledge is fundamental to being human – it is indispensable in making sense of and coping with the world around us. It implies an observational stance, that is, it poses an object of observation or reference that is external to a focal observer. To the extent that such knowledge is to make sense to humans, the focal observer is always a human person. Thus, conceptual knowledge implies a human-centric stance or perspective that is directed at what we naturally perceive as an external world, that is, a world observed from a distance.

In contrast, in some cases, the question of practical knowledge does not arise at all. Because practical knowledge – in a way that would make sense to us – relates to what a human person does, it presupposes that a human is engaged in the doing of what is being studied. In this sense, it is helpful to differentiate subjects into those that involve human tasks or functions, that is, when humans are performers of or in the phenomenon to be studied, and those that involve natural phenomena (of which the human is always an external observer and thus not part of the phenomenon, at least at the level of human consciousness¹). Human subjects thus span the arts, humanities and social sciences, in which one can be both an external observer and a purposeful internal participant. It is thus only in these subjects that practical knowledge arises, and thereby its distinction from theoretical knowledge.

When both theoretical and practical knowledge are possible, a person can take a dual stance of observer and participant. This creates a self-referential loop whereby the person refers (as observer) to what the person does (as participant),

¹ Humans are clearly part of the natural world in the sense that a human is a biological system. But at the level at which our consciousness operates, this system is not directly observable.

and what the person does reflects what the person sees. This loop helps to keep theoretical and practical knowledge in one coherent whole, whereby each conceptual category that arises can be easily exemplified with practical actions, and each practical action can be described in categorical terms. But when this self-referential loop is severed, as when observer and participant are segregated, theoretical and practical knowledge can grow disconnected.

Practical knowledge can be distinguished further, using Aristotle's (1999) distinction of the intellectual virtues of *episteme*, *techné* and *phronesis*. For Aristotle, the intellect has a scientific part that contemplates things with invariable causes and a calculative or practical part that deals with the contingencies of everyday life. Such contingencies comprise things made (making) and things done (acting) and their truth is relative to purpose and values. Therefore, *episteme* refers to universal truths or categories as theoretical, value-free knowledge. *Techné* arises in the making of things and thus refers to art and craft. *Phronesis* arises in judgement and action and thus refers to practical wisdom.

A simple insight from this distinction is that if we take a scholarly interest in human life with its everyday contingencies, we need not only to focus on making sense of the world overall but also to be sensitive to making and acting as distinct domains of knowledge and learning. Thus, to go back to the earlier example, when a third-person comes along, who wants to learn to play football, the knowledge of both experts becomes indispensable. We need the bodily skill and intuitive understanding of the game that is offered by the practical expert (which in this example combines making and acting), but we also need the conceptual schema of the theoretical expert in order to develop a deeper, more expressive understanding of the game and appreciate its broader purpose and place in society. In reality, when theoretical and practical knowledge are disconnected, they become disjointed loci of

learning, with some learners looking exclusively for practical knowledge and others exclusively for theoretical.

SOME FUNDAMENTALS OF CONCEPTUAL KNOWLEDGE

We can now delve into thinking as an activity that involves finding a level of abstraction that enables us to grasp an essence in or articulate the meaning of what is observed. Thinking creates a relation between a person (the scholar) and an external object or activity (that is, as comprising the subject of study). What results from this process is knowledge that constitutes a mental representation (that is, concept) of the external object that in turn needs to be expressed in some symbolic form, such as verbal or mathematical language. Such expression enables knowledge to be communicated, shared, corroborated, refined or challenged. Thus, the knowledge arising from scholarship is an explicit product of intellectual effort that can be consumed by others. It communicates concepts via words and other symbols.

We identify scholarly knowledge by its symbolic expression, yet we also understand that the symbols used stand for something else: for concepts they are meant to express and, ultimately, for entities, processes or events in the world around us that are represented by such concepts. Our everyday language is the simplest example of such symbolic representation, whereby with the words we use we can invoke in our minds entities, process or events, real or imaginary. In other words, a language – of any form – is indispensable for expressing our thoughts. The essential nature of language is that its expressions can be understood by other people, that is, the particular community who use it to communicate.

When it comes to conceptual knowledge, we thus encounter an interplay between a focal individual, a community of other individuals – each of whom can also be a focal individual – and an external world, that is, what is outside of

the focal individual. This interplay is elegantly expressed in Donald Davidson's (2001) notion of the knowledge tripod. It highlights three distinct varieties of knowledge, each based on a distinct mode of access to the same all-encompassing reality. These are subjective (first-person), intersubjective (second-person) and objective (third-person) knowledge. They are not reducible to one another and, in this sense, the notion of tripod suggests that 'if any leg were lost, no part would stand' (p.220). From our own subjective, first-person point of view, to express our thoughts we need a language. To have a language, we need to know other minds (a second-person), to make sure that whatever symbolic expression we use will be understood as such by others. To know other minds, we need a shared external world against which to triangulate meaning, to ensure that the symbols we use stand for something that is commonly perceived and similarly understood.

The interplay among the legs of the tripod becomes evident when we consider something as simple as a rock (in our everyday language). It is a seemingly simple object, but it can be described in many different languages as well as through many different categories or conceptual schemas. Its sense of an everyday object can be conveyed in different foreign language terms (piedra, Stein, камък, камень, and so on), all with the same meaning to be conveyed within the community of speakers of those languages. But it can be described as a molecular system, chemical composition, geological structure, object of worship, tool (such as a paper weight or nutcracker), art object, pet and so on. Similarly, a person can be described as a multicell organism; a nervous, circulatory or respiratory system; an entrepreneur; a parent; a manager; and so on. Each of these descriptions ushers us into a specific community of others, united by some common interest or activity and sharing symbolic expressions that reflect that interest or activity. Therefore, to state what something 'is' is to aim to express a particular point of view, find a community

of others who share the same point of view and use the language the community shares.

In this sense, scholarship – and particularly science – exerts particular care and precision in defining the reality it is to study and calibrating the language used to describe it. A simple everyday object or activity can thus be the subject of many different areas of scholarship. The depth of knowledge that scholarship produces is enabled by the reality frame it uses to define the ‘object’ of scholarship. Such frame defines the essential and nonessential properties of what is to be studied. A frame thus implies a clear categorical boundary and, as such, it makes clarity and precision possible. In other words, scholarship implies a commitment to a particular way of seeing the world, using a particular set of categories of interest. This is reflected in the tree of knowledge system that distinguishes four dimensions of complexity, namely matter, life, mind, culture (Henriques 2008). Associated with these are four broad classes of science – physical, biological, psychological and social – each of which contains finer divisions into specific domains of scholarship.

The language of each domain is its theory. It defines the basic concepts that comprise the domain and enables these concepts to be communicated among the members of the community. In this sense, domain and theory go hand in hand. What makes a domain distinct is its ontology, that is, a foundational sense of what it is, identifying the basic building blocks or essential things of which it is made. Thus, whether a person is seen as made of cells or is seen as made of interpersonal relationships represent different domains of interest and, accordingly, different ontologies. The basic building blocks are categories of objects (used in a generic sense to include entities, events or processes) that define essential properties as relevant for the domain. They can be weaved together into a distinct conceptual model that can be used as a tool for understanding and coping with the world.

In this way, theory as the distinct language of the domain gives external objects a domain-specific meaning, even if it uses expressions from common language. In the light of this, Quine (1960[2013]) portrays science as an extension of common language: not separate from it, but a regimented version of it. It brings clarity through the reference objects it postulates through its conceptual scheme. Thus, the question of what there is (ontology) is very much part of the scientific endeavour: ‘What reality is like is the business of scientists, in the broadest sense, painstakingly to surmise; and what there is, what is real, is part of that question.’ (Quine, 1960[2013], §581).

MAP AND TERRITORY

To be a scholar, then, is to be a scholar of something, to make a commitment to a particular ontology, a particular set of conceptual categories that become basic building blocks from which to build understanding of some aspect of the world. This is just like working with different Lego sets – each consisting of different basic blocks, some square, others round – from which to build models of the world. There is an initial choice of what set to use. It creates a natural community of likeminded users, sharing common set pieces. Thus, it makes little sense for someone using square pieces to admonish another person committed to using round pieces: they belong to different theoretical communities. They know different things.

But what does it mean to know something? The Nobel Prize winning physicist Richard Feynman famously drew the distinction between knowing the name of something and knowing something. In a 1973 TV documentary, he makes two profound points: (1) names do not constitute knowledge; and (2) names are useful when communicating with others. This suggests that, in our quest for understanding, there are two distinct, yet interrelated and complementary steps. The

first involves naming something and thereby making it an explicit focus of scholarly study. For example, social entrepreneurship directs attention to business activities that are motivated by social impact. The second involves describing its nature and operation in terms of the basic language of the scholarly domain. The two activities go hand in hand, since a new name can be justified by distinct configuration of the representational elements, and vice versa.

Figure 1.1 summarizes the points made so far. It distinguishes a realm of practice made of what we can generically refer to as objects of attention – things we sense, make, do in the world – and a realm of theory made of concepts, that is, words and other symbols that stand for objects in the world. Scholarship represents an engagement with the world via concepts: the practical interests of the scholar define the aspect of the world to be represented by concepts via a process of denotation. In turn, the concepts relate to the world via a process of reference, whereby objects in the world are described, expressed or perceived by those concepts, within the theoretical framework that defines them. The combination of objects and concepts create a realm of meaning as an interplay of denotation and reference. Meaning changes when the same concepts are used to refer to new objects or when the same objects are denoted by new concepts.

Portrayed in these terms, it is clear that knowledge is a sort of map of something, of some territory of the broader world, which to an uninitiated observer (such as an alien or a newborn) may appear as an incomprehensible mess. Thus, to know something is to be able to construct a (conceptual) map of it. But deeper questions arise when we consider Korzybsky's (1933) famous claim 'the map is not the territory'. In its elaboration, Korzybsky outlines two crucial negative premises: (1) words are not the things we are speaking about; (2) there is no such thing as an object in absolute isolation. The first relates to the earlier discussion of the different ways to describe something; no description is exhaustive. There are different



Figure 1.1 Denotation and reference

maps possible of the same territory. The second relates to the earlier point that each description requires a frame that isolates the object to be described in terms of essential and nonessential features.

If a map is not the territory it represents, then the question arises of what gets on the map. Bateson (1972) articulates that what gets on the map is difference, and difference is an abstract matter. It is not an inherent property of things but is attributed to them by an observer who puts things side by side and draws a comparison. For example, when looking at two people, we can draw differences in terms of height, weight, age, biological sex, gender, language, nationality, profession, marital status, knowledge of the world's capital cities, ability to draw flowers, and so on. There are an infinite number of differences we can highlight in this case. Each difference is related to the kind of map we would like to build, or in Kantian terms, the facts we would like to select and make relevant. In this sense, Bateson concludes that an idea in its most elementary sense is synonymous with difference. Information is a difference that makes a difference.

What we put on the map are ideas. And ideas arise from a fundamental function of our mental processes, namely to distinguish. In light of the latter, Korzybsky highlights two main tendencies in science. The first is to conduct experiments in order to detect differences. Associated with this is the design and improvement of instruments that can detect such differences. The second is critical verbal rigour, associated with the invention of better forms of representation (that is, theories). As already intuited, both are critically important: isolated facts do not make a science; they need to be brought together into a structure in the form of theory. Actions (making of facts) and concepts (structuring of facts) are thus complementary and indispensable to one another.

CONCEPTS AS MEDIATORS OF BEHAVIOUR

Concepts are essential for facilitating learning and thus control of behaviour. Understanding the instrumental role of concepts rests on a seminal idea by Vygotsky, who suggests that the use of signs (symbols) acts as a mediator of behavioural acts and thus enables behavioural control.

Because this auxiliary stimulus possesses the specific function of reverse action, it transfers the psychological operation to higher and qualitatively new forms and permits humans, by the aid of extrinsic stimuli, to control their behaviour from the outside. The use of signs leads humans to a specific structure of behaviour that breaks away from biological development and creates new forms of a culturally-based psychological process. (Vygotsky 1978, p.40)

Signs can thus act as artificial stimuli in a given situation and can serve as immediate causes of behaviour.

This happens through the role of signs as conduits for meaning. Vygotsky highlights that as abstract thought develops, meaning begins to dominate action in the sense that

action plays an instrumental role in an imaginary world of aspirations, goals and values. Imagination is a specifically human form of conscious activity that enables humans to rise above situational constraints: in an imaginary situation, it is not the immediate perception of objects that guides action, but the meaning of the situation. In this way, action becomes a pivot through which a person can move in a field of meaning. Perception and meaning begin to diverge once children begin to separate objects from the concepts used to describe them. In this way, play emerges as the creation of imaginary situations in which thought becomes separated from objects. Thought acquires causal power because it infuses meaning.

When the use of signs is viewed in the context of cultural evolution, concepts stand out through the ways they help our thinking, improving our discrimination and memory as well as becoming a storehouse of cultural evolution and social learning (Henrich 2016). Concepts or categories enable us to make sense of the world and deal with new situations by treating them as familiar. The creation and evocation of concepts is driven by the making of analogies and this represents the core of our thinking: ‘for without concepts there can be no thought, and without analogies there can be no concepts’ (Hofstadter and Sander 2013, p.3). Categories are evolving mental structures that contain information in an organized form, which can be accessed via acts of categorization, whereby a new situation can be seen and understood in a particular way.

This idea is linked and reinforced by Sellars’s (1963) refutation of the ‘myth of the given’, that is, the idea of immediate empirical knowledge. For Sellars, classificatory consciousness – the claim that something is thus and so – involves learning, concept formation and the use of symbols: ‘for now we recognize that instead of coming to have concept of something because we have noticed that sort of thing, to have the ability to notice a sort of thing is already to have the concept of that sort of thing, and cannot account for it’ (p.176).

There is thus a creative act or mental leap when existing categories are applied to new situations or analogies are made to derive new concepts. Hofstadter and Sander provide the example of Galileo's observation of Jupiter after constructing his first telescope, at a time when there was no sharp distinction between stars and planets. An initial surprise was that, while Jupiter appeared as a dot when seen with a naked eye, it became a small circle when seen through the telescope. Using the analogy of someone approaching you with a lantern directed towards you (where the lantern grows from a dot to a growing circle), Galileo concluded that Jupiter was a physical object. He then observed tiny black dots against the white background of the circle, moving across in a straight line. When reaching the edge of the white circle, they became white against the black background of space and continued their straight-line motion, before slowing down to a stop, reversing their motion, and disappearing when reaching the edge of the white circle, only to reappear later on at its other side. Galileo knew that the Earth was round and that the Moon rotated around it periodically, but Earth and Moon were the proper names of single objects. Galileo's mental leap was to pluralize these and thus 'see' a second 'Earth' in the sky with several 'Moons'. This gave rise to the concepts of *planet* and *moon*. From today's point of view – when these concepts are taken for granted – it is difficult to imagine that there was a time in which what the dots in the sky were had not been given.

Bringing all the strands of thought together, we started with the general idea of the scholar as a thinker and we can now distinguish four distinct strands of the activity of thinking, as illustrated in Figure 1.2. They form a cycle that reflects the interplay of theory and practice.

- (1) Generation and detection of differences in the territory (practice). This includes both empirical research and actual practice.

- (2) Generation of new concepts to name and communicate these differences.
- (3) Organization and relation of concepts to create a map of the territory (theoretical work).
- (4) Application of concepts to the territory – to frame and give meaning to new areas, situations or aspects of it. This includes both the natural situations of practice and the generation of an artificial situation, such as when conducting research via a survey or experiment.

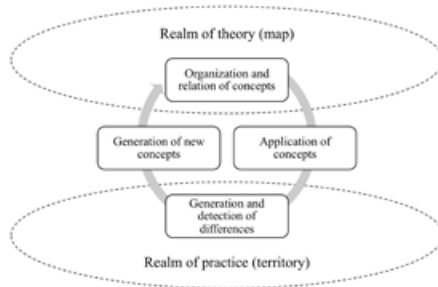


Figure 1.2 *Cycle of thinking*

This cycle of thinking can be related more broadly to Piaget's (1950) theory of cognitive development, based on an inter-play between assimilation and accommodation. Assimilation entails perceiving new objects through existing mental schemas, while accommodation entails adapting the schema to incorporate ill-fitting objects or situations. This idea also forms the basis of experiential learning theory (Kolb 1984). It specifies an overall learning cycle, in which new schemas

arise and operate through reflective observation and abstract conceptualization, and are then applied and enacted through active experimentation and concrete experience.

Having explored so far the nature of knowledge as a sort of map of some territory, in the next chapter I will explore the specific territory or domain of entrepreneurship.

2. Entrepreneurship as an academic subject

When I tell my children that I am a professor of entrepreneurship, their immediate question is ‘What is entrepreneurship?’ The challenge of explaining this is that there is nothing obvious to point to. I start looking around for props. I point to a newspaper article about Elon Musk and Tesla.

‘This is entrepreneurship.’

‘This? You don’t mean the paper or the picture, do you?’

‘Of course not.’

‘Is it the person, then?’

‘Well, not quite. It has to do with what the person is doing. I suppose you could call him an entrepreneur only when he is engaged in entrepreneurship, but otherwise he is just a person, parent, spouse, citizen, neighbour, etc. So, okay, he is trying to create something new.’

‘Look, dad – I drew this picture – is this entrepreneurship?’

‘Well, no, you need to make something and then to sell it to someone.’

‘So, if I can get my sister to buy my picture, then I will be doing entrepreneurship?’

‘Perhaps, but you need to be making and selling more than one picture.’

‘When we went on the school trip to the Picasso exhibit at Tate Modern, there were a lot of pictures by Picasso and they seem

to have been bought by different people. So, Picasso, then, was doing entrepreneurship?’

‘Well, you could see it that way, but he was an artist. His primary purpose was not to sell the paintings but to express himself through painting.’

‘But didn’t he need the money, to earn a living? So, maybe he did have to sell a few paintings.’

‘Well, I suppose so.’

‘It is just like this lady we saw at the Christmas Fair, making those pretty bracelets. Or the man making the metal birds to put in the front yard. So, what is Tesla making?’

‘A new type of car – an electric one.’

‘Anabel’s parents just bought a new car, the new Ford Fiesta. So, does this mean that Ford is doing entrepreneurship?’

‘Well, not quite, in this case they are just making the same type of car.’

‘But it is the new model, the 2018 one.’

‘It is not really that different from the 2017 model.’

‘Actually, it has a cool new screen, looks like an iPad.’

‘Entrepreneurship is about the pursuit of opportunities.’

‘Dad, what is an opportunity?’

It is a relief to wake up. But the question continues to occupy my waking hours.

ELUSIVE BOUNDARIES

The difficulty in the above hypothetical exchange arises from two sources. The first relates to the clarity of the concept of entrepreneurship – a prerequisite for scholarly study – which necessitates the creation of ontology of essential concepts or building blocks. Because the description of the ontology uses the very words and language we use in everyday life, achieving an ontological synchronization, that is, ensuring that each side in a discussion operates with the same building blocks of concepts, is difficult. Another way of saying this is that academic or dictionary concepts are conjunctive: they require a number of conditions to be concurrently met as a way of pinpointing meaning that is precisely defined. But

empirical instances of the concepts are diverse and disjunctive, operating at the intersection of disparate categories, each offering nuances to the other. When we view each of them as a simple rule for classification, we have to additionally sort the instances of that rule as positive and negative examples of the broader concept.

Thus, one might say simply that entrepreneurship is about starting an own business. But we are pulled immediately into qualifying what it means to start – how many activities qualify something as being or having started? Next comes the qualification of ‘own’, particularly when ownership can be active or passive and when starting a business for an employer can also be a case of entrepreneurship. Then comes the question of business, and this is where becoming a self-employed plumber, dentist or business consultant can trigger discussions of whether these represent instances of entrepreneurship.

The second difficulty arises from trying to explain why entrepreneurship works in a certain way. Richard Feynman, whom we met in the first chapter, offers more insightful thoughts on the difficulties of why questions: ‘when you explain a *why*, you have to be in some framework that you allow something to be true. Otherwise, you’re perpetually asking why ... You have to know what it is that you’re permitted to understand and allow to be understood and known, and what it is you’re not.’¹

The implication here is that entrepreneurship can be described at different levels of abstraction, each associated with its own ontology and representative concepts. Entrepreneurship is a complex phenomenon and, as such, it touches all areas of the social sciences without being reducible to any one of them. It involves business in the sense that an entrepreneurial initiative needs to be viable from a business point of view. This enables further description from within

¹ <https://www.youtube.com/watch?v=Dp4dpeJVDxs>

the basic business disciplines (accounting, finance, marketing, operations, strategy and so on). Yet, being engaged in business is not sufficient for entrepreneurship. Entrepreneurship also involves management in the sense that various people and processes need to be organized and controlled. Yet, being engaged in management is not sufficient for entrepreneurship. Entrepreneurship involves people as focal actors and they can be described through the psychological lenses of personality, cognition and motivation. But what earns someone the description 'entrepreneur' goes beyond these basic psychological categories.

In a similar manner, entrepreneurship takes place in societies, yet is more than what sociology has to offer in the sense that its essence is not exhausted by sociological concepts. It is intertwined with cultural practices, but cannot be reduced to anthropology. And it involves economic transactions and plays a distinct role in the economic system, yet involves more than what micro or macroeconomics have to offer. In short, each of these disciplines can shed light on and provide useful insights for understanding various facets of entrepreneurship, but none of them – even when put together collectively – captures its essence, and thus none of them satisfies our core curiosity about entrepreneurship. Just as – having broken a china cup into pieces – we cannot put the cup together from the pieces, so we cannot put entrepreneurship together from the disciplinary pieces into which it can be broken. An organism, once broken apart, ceases to be alive.

DOMAIN VERSUS PHENOMENON

One persistent debate in the academic community concerns the question of whether entrepreneurship entails its own scholarly domain or is *just* a phenomenon to be explained by other domains, that is, a playground for other domains. Underlying this debate are questions about academic legitimacy and concerns about academic careers. As illustrated in

the previous section, the empirical phenomena associated with entrepreneurship – such as startup rates, motivations of founders, formation of founding teams, societal values that promote enterprise, and so on – can be meaningfully illuminated and thus understood by other academic disciplines. But the question is whether these capture and collectively exhaust the essence of entrepreneurship and what it means for someone to be an entrepreneur.

What lurks in the question of domain versus phenomenon is what Searle (1994) describes as conflation of ontological and causal reduction. To state that entrepreneurship is *just* a phenomenon is to say that it can be causally explained by the theories of other scholarly domains. Such causal reduction is quickly turned into ontological reduction, namely the claim that entrepreneurship is nothing but the domain of other theories. To reject the ontological reduction is to demonstrate that there are irreducible aspects of entrepreneurship that make its domain distinctive and thus need a distinct theory to represent them.

Tackling this question invites another thought experiment. Let's imagine two people sitting across from us on the metro, both silent and engulfed in their thoughts. From our observational perspective, they are indistinguishable save for their external features – clothing, facial features, body shape, and so on. If we further presume that they are identical twins, identically dressed, we are faced with two observations that are virtually identical save for the minor difference in their spatial location.

What makes them different is their ontological subjectivity, that is, their mental states, such as intentions, hopes, fears, and so on. One of them is rehearsing her pitch for a venture capital investor and the other is planning a family holiday in Spain. But their mental states are inaccessible to us. Indeed, the only way to find out about them is to ask them about what is on their minds. And having heard about their immediate

plans, we could differentiate the two persons, seeing one as an entrepreneur and the other as a person going on holiday.

But what if the person going on holiday had pitched to investors the previous week and is still pursuing the venture, planning to resume her efforts after the holiday, and the person thinking about the pitch had been on holiday the previous week? In that case, we see each of them as both entrepreneur and holidaymaker and we can involve each in conversations about entrepreneurship and holidays.

Now, let's imagine that everyone in the crowded metro train is an 'entrepreneur' and each of them starts telling us about their aspirations, plans and intentions. It is unlikely that the cacophony of voices will be delivering a single or even a coherent message – different industries, different social contexts, different organizational contexts, different activities, different goals – but what enables us to see them all as instances of 'entrepreneur' is their personal senses of opportunity for growth and change, defined by personal visions of a better world around them. In other words, as Dewey (1960) articulates, in the midst of the amorphous busyness on the train, their personal worlds become focal points of engagement and inquiry: 'there is a moving whole of interacting parts; a center emerges wherever there is effort to change them in a particular direction' (p.291). Each of them is looking to organize or change the world in their own subjective fashion.

What is the nature of these subjective worlds, defined by mental states such as hopes, aspirations, beliefs, and so on? Historically, mental phenomena have been considered distinct from their physical, material counterparts, creating a dualism of mind and body, reinforced by Descartes's famous '*Cogito ergo sum*'. John Searle (1994) provides an account of mental phenomena – what he terms 'biological naturalism' – that aims to eliminate this mind–body dualism. The key insight is that mental phenomena such as consciousness and intentionality are emergent properties of the neural system. Understanding

emergent property in turn rests on the distinction between causal and ontological reduction.

A statement of causal reduction implies that intentionality is causally explained by the neural system (that is, it is associated with distinct neural states). In other words, remove the neural system and consciousness disappears. This is just like the image on a TV screen – it is causally explained by the illumination of pixels fuelled by electricity. Unplug the TV or remove the battery and the image disappears.

A statement of ontological reduction implies that intentionality is nothing but a neural state. The temptation is to forego descriptions drawn at the macroscopic level – such as consciousness, intentionality, that is, involving language of epiphenomena (mental states regarded as byproducts of brain activity) – and focus on the lower level phenomena of neural states. Or, in our TV example, we move away from the holistic image displayed on the screen (such as a car) and descend to the level of the pixels that compose it. Hofstadter (2007) points out that dropping all the macroscopic descriptions increases complexity enormously as there is only a vast, incomprehensible sea of elementary components (neurons, pixels, atoms or other elementary particles): ‘when one perceived only myriads of particles, there are no natural sharp borders in the world ... To a reductionist, the idea of carving the universe up into zones with inviolable macroscopic spatio-temporal boundary lines makes no sense’ (§1370).

While there may be no logic at the elementary level – think of the random movement of elementary particles that generates heat – there could be a perceptible and comprehensible logic at the epiphenomenal level, as in when we refer to ‘heat’. Even our description as humans is epiphenomenal in nature – we refer to heads, arms and hearts, rather than to the multitude of cells that make up these parts. At that level of ‘seeing’, we do not really see these elementary components. But this is the level at which things make sense to us. We immediately grasp

the car on the screen, rather than discern the individual pixels that make it up.

Accepting causal reduction but rejecting ontological reduction renders the ontology of intentionality distinct. It is what Searle refers to as first-person ontology. The existence of a first-person ontology of mental phenomena arises from the sense that this is what makes us human, that is, our being able as humans to relate to them, to recognize them as our own experience. We respond to descriptions of hopes and intentions, rather than to descriptions of some neurophysiological states. And hopes and intentions are always someone's hopes and intentions.

All this means that there is a profound difference between being an entrepreneur and being seen as an entrepreneur (by someone else), or between being in the process of entrepreneurship and being outside of it, an external observer. This difference arises from accessibility to the first-person ontology of entrepreneurship. And this difference suggests that entrepreneurship is both a distinct domain and a phenomenon. When we consider its first-person ontology – the experience of being in its driving seat – we have a distinct domain that requires its own set of concepts to represent, interpret and share that experience. In contrast, when we think about entrepreneurship in terms of causal reduction, then we have a phenomenon that can be related to and explained in terms of some other elementary components.

When the first-person ontology is lost or inaccessible – and we are thus rendered external observers – we are left with reducing the person or the process to the generic categories 'entrepreneur' and 'entrepreneurship'. To give substance to these categories, we look – still as external observers – for the traces of the entrepreneurial activity, the effects it causes, summarized by similarly generic categories: starting firms, building teams, developing products, raising funds, creating employment or disrupting industries. Such functionalist accounts of entrepreneurship, by virtue of applying these

generic categories so that diverse examples are seen simply as instances of such categories, create observations that can be counted. In turn, the numbers that these counts produce can be used as a playground for testing theoretical predictions from other domains such as economics, sociology and psychology.

What is lost in such counts is the content. If someone says 'I am an entrepreneur', we are bound to ask, what kind? what are you trying to do? just as we would ask such clarifying questions if someone said they were a teacher, a consultant, a doctor, a student, an engineer, self-employed, an artist, an athlete or a scientist, or if someone said they were starting a business, building a team, raising funds, creating employment or disrupting an industry. This is because these generic categories give us no sense of what people are actually doing. They become convenient devices to make such observational instances countable and thus deploy methods that deal with relationships between quantities. But as the saying goes, 'Not everything that counts can be counted, and not everything that can be counted counts.' The meaning of these categories comes alive when the door to their first-person ontologies is opened.

What makes entrepreneurship distinct is its first-person ontology. Even if entrepreneurial behaviour could be causally reduced to the broader postulates of sociology, psychology and economics, understanding entrepreneurship cannot be reduced to the generic countable categories of objectivity from a third-person stance. Indeed, while it is argued that what makes entrepreneurship theory distinct and necessary is the fact that entrepreneurs operate and make decisions in a context of great uncertainty, this statement has no personal meaning unless connected to someone's experience. There is thus a problem that such uncertainty is inaccessible in its first-person ontological form outside the experiencing person.

BACK TO SELF-REFERENCE

In the first chapter, we discussed the self-referential loop that arises when a person refers (as observer) to what the person does (as participant). This dual stance of observer and participant creates the possibility of both theoretical and practical knowledge. The first-person ontology not only makes entrepreneurship distinct, but also loops together theoretical and practical knowledge. The observational, externalizing stance of theoretical knowledge implies that to take such a stance one needs to leave temporarily the first-person ontology. But staying committed to the distinct domain of the first-person ontology requires never losing sight of it. Otherwise, entrepreneurship becomes a distant phenomenon described in generic categories – just like football, when we watch it but do not play it or take no interest in the experience of being on the field, in the heat and pressure of the game.

In the distinctiveness of their first-person ontology, entrepreneurs are similar to doctors, architects, lawyers, students, parents, firms, and so on, namely people whom we place in broad social categories based on the ends and purposes they pursue or the professional activities in which they partake. The activities in each category involve people acting and interacting in specific ways and for specific purposes, and as such they delineate domains in which action and interaction take specific, contextualized forms. When such activities are reduced to countable instances of generic observational labels such as communication, negotiation or emotional support, they can be seen as manifestations of – that is, as causally reduced to – some broad postulates about human action and interaction. But this does not entail an ontological reduction. Their first-person ontologies are distinct not only across categories – for example, to be a doctor is different from being a lawyer, a parent, an entrepreneur or a student – but also within categories. We learn little by simply calling the founder of a high-tech startup in Silicon Valley and the owner

of a small peanut-butter-making business in Kenya ‘entrepreneurs’. Such a unifying label conceals a host of important differences. The unifying label is helpful for counting and thus explanation at a higher level of abstraction, but not really helpful for understanding.

Some of the first-person ontologies mentioned above (such as doctor and lawyer) are codified in professional practice frameworks that adapt broader theories about individuals and society to the specific ontology of the domain (such as patient, disease, law) in the service of improving the practice. Others, such as parenting and entrepreneurship, are not explicitly codified as unified domains of practice. This makes an even stronger case for not losing sight of the first-person ontology of entrepreneurship.

The challenge for the entrepreneurship scholar is engaging with other academic disciplines – for each offers valuable insights – without being based in any one of them. Indeed, we should not lose sight of the fact that, although the first-person ontology makes entrepreneurship seem just an individual endeavour, it is also inherently social in the sense that its actions are directed at or entwined with other individuals and are grounded in existing social and business practices. Other disciplines offer invaluable insights about how such practices can be performed effectively. Just as an entrepreneur is often referred to as jack of all trades, so an entrepreneurship scholar needs to operate as a generalist, an interdisciplinarian, holding a systemic view of how the various strands of academic knowledge fit together for the understanding of entrepreneurial experience. Such systemic balance comes under pressure when interdisciplinarity is undermined and hindered by the practices of each discipline as they pursue research excellence through specialization and refinement.

INDIVIDUAL YET SOCIAL

The first-person ontology of an entrepreneur makes individual action a primary locus of understanding. Indeed, when we think about the profound effects of entrepreneurship that underpin our scholarly interest in it, they can be traced historically to particular actions of individuals that seem to initiate a chain of events that eventually transpire as momentous, even if the original action could not be reasonably deemed as prescient or as anticipating any momentous effect. And yet, intuitive counterfactual reasoning would suggest that had the action not taken place events would have transpired in a different way. In this way, the action – and the effort and thinking behind it – become a natural focus of inquiry. This brings us back to Dewey's (1960) point that an effort to change the world in a particular direction becomes a focal centre for engaging with the world.

While the action is performed by an individual, we should not lose sight of the fact that it is inherently social. 'An action is "social" if the acting individual takes account of the behaviour of others and is thereby oriented in its course' (Weber 1922[1991], p.4). In order to account for this social aspect of the action, we need a corresponding conception of the social. Reckwitz (2002) outlines three fundamentally different conceptions of the social and thereby different ways of explaining action and social order.

The first seeks to explain action in terms of individual interests, intentions and purposes, with rational choice theory serving as a paradigmatic example. In this conception, the social is merely a collection of 'homo economicus' agents. This conception is typically referred to as methodological individualism, whose central tenet is attributed to Weber's (1922[1991]) argument that only (individual) action is subjectively understandable. Yet, while Weber's insight was primarily methodological – that is, to privilege the action-theoretic level of analysis as a means to understanding social phenom-

ena – over time the emphasis has shifted to privileging the individual (Heath 2015).

In the second conception, the social is captured in collective norms and values that in turn are used to explain action by virtue of its adherence or compliance with these norms and values. The social thus arises through normative consensus of ‘homo sociologicus’ agents. In between the two conceptions lies the realm of ‘cultural theories’ which emphasize symbolic interaction and shared knowledge. This third conception fits best the discussion in the previous chapter of symbols as mediating human action and of scholarly objects implying a community of likeminded observers.

One particular conception of symbolic interaction and shared knowledge is based on the notion of social practice as a fundamental building block. It recognizes that what entrepreneurs do is entwined with their particular world or way of life, already populated with activities, tools and identities and communicated via specific language. I outline briefly the practice perspective outlined by Schatzki (1996, 2002), which recognizes individual agency as a driver of change, while acknowledging affairs that are irreducibly social. This work presents the site of human coexistence as a variegated and constantly evolving mesh of orders and practices.

An order is an arrangement of things – people, artefacts, organisms and things – ‘a hanging together of entities in which they relate, occupy positions, and enjoy meaning (and/or identity)’ (Schatzki 2002, p.20). In turn, practices represent ‘temporally unfolding and spatially dispersed nexus of doings and sayings’ (Schatzki 1996, p.89). What makes such doings and sayings the performing of a practice is that they share: (1) practical understandings of what to say and what to do (intelligibility); (2) explicit rules, principles, precepts and instructions; (3) ‘teleoaffective’ structures such as ends, projects, beliefs, emotions, and so on; and (4) general understanding of how the world makes sense. Orders exist and evolve in a context of practices, and practices exist and

evolve in a context of orders. The interconnections between the two constitutes the mesh. It provides categories, meaning and embodied approaches as elements in the articulation of entrepreneurial actions.

In summary, there is a need for a holistic approach to the scholarship of entrepreneurship. There is something irreducibly individual about it, captured by the first-person ontology of the acting entrepreneur. At the same time, understanding what entrepreneurs do requires sensitivity to the social nature of their actions. To be holistic means not losing sight of the role that parts play in the larger whole, whether these parts are academic activities or knowledge disciplines. Focusing exclusively on any of the parts creates fragmentation and isolation. Once this is done, who is supposed to put the parts together?

3. Knowledge and reality

The previous chapters established that knowledge is represented and communicated via concepts and that disciplinary specialization emphasizes some concepts over others. In addition, they highlighted the irreducible first-person ontology of an acting entrepreneur, while also emphasizing the inherently social nature of their actions. In this section, these will become the parameters within which we will articulate the nature of scholarly discourse about entrepreneurship.

THOUGHT MODELS AND ACADEMIC DISCIPLINES

To see something – in the sense of articulating what it is – one needs to apply a concept or a thought model. This is most vividly articulated by Sellars’s idea outlined in Chapter 1 that having a concept enables us to notice the sort of thing that the concept represents. In daily language, in the simple act of referring to things with words, we utilize the meaning of those words as entwined with our way of life and cultural or professional practices.

The philosopher Nelson Goodman (1978) refers to this process as worldmaking. It expounds the idea that a frame of reference is inescapable and our world thus consists of ways of describing: ‘We are confined to ways of describing whatever is described’ (p.3). Different descriptions of the world constitute world versions and in this sense to make a new description is to engage in worldmaking by remaking worlds already on hand. This can be based on recomposing, reweighing, reordering, deleting, supplementing or deforming various

aspects of descriptions we already have at hand. It is just like working playfully with photo editing software, whereby we take a photo and then use the above operations to turn it into something else.

At the most intuitive level, we feel that a description needs to be realistic. But what makes a description or depiction realistic or correct? Goodman addresses this question by distinguishing two senses of realism. In the first, the sense of realistic arises from habituation, from the observation of habits and customs that create categorizations or depictions that are considered 'right' as they reflect what we are accustomed to. The second sense relates to revelation, that is, the disclosure of new or unseen aspects of the world that are revealed under a new system of categorization or representation. In the former sense, concepts have an inertial force in that they capture habits and thus represent a tool for permanence. In the latter sense, concepts are an inventive force, initiating something that can be appreciated only for what it reveals.

The implication of this is that a categorization scheme has no inherent truth value. In this sense, 'argument for the categorization, the scheme, suggested could not be for its truth, since it has no truth-value, but for its efficacy in world making and understanding' (Goodman 1978, p.129). The efficacy is evident in the cases where the scheme affirms our habits and customs – it is considered 'realistic' in this most natural, ordinary sense. But in the case of revelation, efficacy arises only in the new world that the scheme reveals, a world of new artefacts, previously imagined as preferable and brought about.

Academic disciplines come with a conceptual arsenal that a scholar adopts as part of his or her socialization in a discipline. These concepts shape what one 'sees' in the world. In this sense, thought models and the concepts they employ are necessary to see the reality that the academic discipline seeks to depict. Thus, to talk about what something 'is' is to adopt a point of view with a set of categories at its disposal. The scholar engages in worldmaking in the sense that they

describe the world through the categories of the chosen theoretical schema. Such a schema necessarily emphasizes some aspects of the world as more salient than others. This idea is illustrated in Figure 3.1.

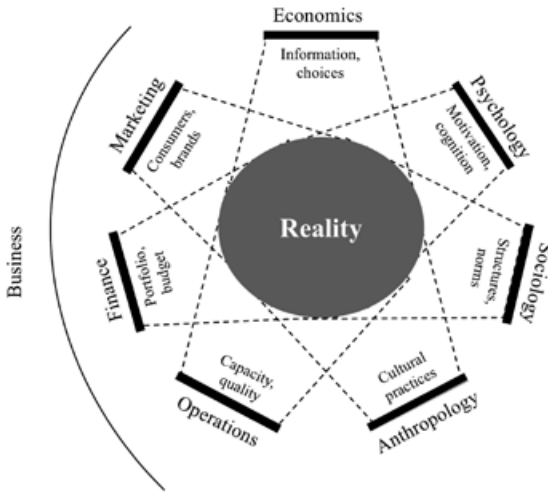


Figure 3.1 Thought models of reality

Entrepreneurship scholars often reveal their core disciplinary training by virtue of what they pay attention to in an entrepreneurial context. Psychologists think about personality, motivation, cognition, teams. Economists think about information, incentives and decision making. Sociologists think about social norms and values. Even within business disciplines, we can talk about entrepreneurial marketing, entrepreneurial finance, entrepreneurial strategy and entrepreneurial teams.

These thought models are distilled within academic disciplines that hone their boundaries to facilitate specialization. This is tantamount to developing distinct languages in which the same word, such as ‘performance’, can have different meaning in different academic communities. Just like human languages, communication across language communities is difficult or even impossible without translation.

THE WORLD OF...

The idea of worldmaking raises the notion of world, as in the expression ‘the world of ...’ (technology, economics, art). Dreyfus (2014) – building on the ideas of Heidegger – argues that world is ‘an organized body of objects, purposes, skills, and practices on the basis of which human activities have meaning or make sense’ (p.222). The difference is between a meaningless universe of interrelated facts and a meaningful world of X. The world thus represents a background against which certain things can be deemed relevant. It constitutes a backbone of intelligibility and as such cannot be represented in a formal way, that is, there is no theory of it, in the sense that every theory needs to start from some base and it is the base to which we refer here.

In a Heideggerian sense, shared practices constitute an understanding of Being and provide a clearing (enlightenment) in which entities show up for us as objects with certain meaning. In other words, to take a particular object for granted already implies standing on some backbone of intelligibility. This is similar to Feynman’s point that to pose a ‘why’ question you have to be in some framework in which you allow something to be true or given. We always need some foundation that we use in an axiomatic sense to erect a worldview.

As Dreyfus articulates, operating in the background world of shared practices constitutes absorbed or skilful coping that involves no explicit intentionality but holistic, bodily engagement. Intentionality and rational deliberation arise

when one steps away from intuitive response (such as during breakdown) and becomes a detached, external observer of the situation as an object with decontextualized features, and then reasons what to do.

By this token, an entrepreneur is part of many worlds, each intersecting the others. One is the world of business, by virtue of trying to engage in economic exchange and make a profit. Another is the world of the particular product or service involved, such as the world of manufacturing, the world of sugary drinks, the world of hairdressing or the world of travel. Yet another is the world of consumers or users, with their own trends, needs and practices. Perhaps the key point here is that the entrepreneur is not fully immersed in any of these worlds but is in fact operating in between them, seeking to connect them (or mix and match) to create a new or more nuanced world.

Flores, Spinoza and Dreyfus (1997) refer to this process as disclosing new worlds. Starting within a position of a world, as defined above, they suggest that all pragmatic activity is organized by a style, which captures the way practices fit together. A style provides a holistic meaning for human activity, coordinating it and opening up a *disclosive* space in which things show up as meaningful. Styles operate by coordinating actions, determining how people and things matter and connecting different situations. In our everyday habitual experience of the world, there are disharmonies or incongruities that we normally tend to overlook in our absorbed focus on the more meaningful chunks of the day, such as getting to work, meeting deadlines or picking up the children from school. In the course of this, we overlook the subtle pressures, the crowded buses, the threads of dissatisfaction or the pockets of optimism.

However, entrepreneurs focus on and retain such incongruities as the basis for defining challenges in the world and seeking to address them, and thereby change the world. By engaging in *historical disclosing* they can change the style of

the disclosive space. They engage in a process of revelation, whereby by virtue of imagining a different world we begin to see the current world in a different light. Examples of this abound: from Steve Jobs' vision for a seamless interaction between humans and computers to Elisabeth Holmes' vision that 'a single drop changes everything' (even if this later unfolded as fraud on a grand scale at Theranos).

A vision leads to a new way of understanding and disclosing the world. Such change can be done in three different ways. By engaging in articulation, entrepreneurs bring a style into focus, making what is normally implicit explicit. For example, moving from climate 'change' to climate 'emergency' brings a new way of framing and evaluating consumer choices or benefits. By engaging in reconfiguration, they make marginal features of the style dominant. Thus, Gillette made the disposal of the razor a central feature of the shaving experience. By engaging in cross-appropriation, they import practices from other disclosive spaces. With the distribution model of software as a service, software moved from being a product to being a service.

In a similar way, a scholar occupies a world of academia or knowledge production, marked by its own background purposes (such as theoretical contribution, publication), skills and practices. That world intersects the practical world associated with the particular knowledge area in the sense that it takes certain objects, purposes, skills or practices as the focus of its inquiry.

We can thus think that the world of entrepreneurship is intersected by the worlds of different scholarly disciplines, each with its own background purposes, skills and practices that provide clearing for certain objects while obscuring others. While each scholarly world seeks to subsume the entrepreneur and thus claim it as its own, it can only take in part of the entrepreneur's world, breaking up its whole and offering at best a partial glimpse into it. This poses a dilemma of scholarly loyalty, namely between retaining the holistic

nature of the entrepreneur's world and breaking it into parts that can be studied in isolation.

DRAWING BOUNDARIES

Whether we study the entrepreneur's world as a whole or break it into distinct parts reflects how we choose to make sense of what is otherwise a raw, undifferentiated observation space in order to be able to describe and analyse it. Because no two observations are literally identical, we need to structure the observation space in order to make aggregations and thus apply categories of interpretation. In other words, we need to create our own disclosive spaces to allow certain things to show up as meaningful. This involves creating partitions in the observation space such that observations within a partition are considered identical (replications) and observations across partitions are considered different (McGrath 1982). Doing so is a major judgement call in research, as the interplay between replication and partitioning in effect reflects an arbitrary choice based on the analytical purpose at hand. This judgement is often implicit, as when we take partitions for granted as a result of habits or disciplinary conventions.

The partitioning of the observation space matters for the distinction that Ragin (1987) makes between variable and case-oriented approaches in making comparisons and studying relationships. They involve different tradeoffs between complexity and generality. A variable-oriented approach partitions individual cases into a set of variables that are then seen as replications across cases, with the goal of discovering general relational patterns between these variables and certain outcomes of interest. An implicit assumption in this approach is that the effects to be discovered exist independent of context. In contrast, a case-oriented approach treats individual cases as holistic configurations and seeks to retain the complexity of how their elements combine to produce certain outcomes. Therefore, the first approach distils relationships to

linear effects of specific factors, while the second considers relationships as conjunctural, that is, when several conditions jointly determine an outcome of interest. One approach deploys linear thinking whereby factors can be studied on a piecemeal basis; the other configurational thinking, where the emphasis is on necessity and sufficiency in understanding the holistic case.

The familiar example of a typical data table (dataset, database) serves to illustrate the distinction just made. Horizontally, the data table consists of individual cases or records, which pertain to distinct units of observation such as entrepreneur or company. Thus, we have the cases of entrepreneur1, entrepreneur2, entrepreneur3, etc. or company1, company2, company3, and so on. Vertically, the data table consists of fields or variables that contain different characteristics of the cases, such as age, size, industry, capital structure. Variables can be of different types, enabling comparisons in terms of nominal categorical (such as male, female), ordering (such as higher, lower), and numerical characteristics (such as sales volume). Thus, one can partition the observation space vertically, separating the different variables, or horizontally, separating the different cases.

THE SCHOLARLY LOYALTY: ENTREPRENEUR OR MODEL?

Whether the entrepreneur is seen as a holistic case or as a collection of discrete parts is a judgement call by the researcher. This has implications for how the entrepreneur's first-person ontology is handled in the research process. As we established in the previous chapter, what makes entrepreneurship distinct is its first-person ontology. Within that ontology, the entrepreneur is concerned with what to do next, how to turn her vision into reality. This is a stance that is exclusively future focused, whereby the future makes particular sense from within the disclosing that the entrepreneur does in articulating her vision.

In engaging with entrepreneurship as a focus of study, a scholar is thus 'torn' between looking *with* the entrepreneur by immersing themselves in the entrepreneur's world and looking *at* the entrepreneur by adherence to the core academic discipline with its thought models and conceptual tools. In the first case, the partitioning is done around the entrepreneur, retaining her as a holistic case and thereby preserving the first-person ontology. In the second case, the partitioning is done across the entrepreneur, reducing him to a set of model components and thereby obfuscating the first-person ontology.

Korsgaard (1996) suggests that our scholarly efforts amount to holding entrepreneurs responsible for their actions, that is, articulating an account of what they do and aiming to ascribe responsibility. Crucially for our purpose here, she distinguishes two ways in which this happens. The first is assignment of responsibility in a *theoretical* sense, whereby we treat responsibility as a fact about the person in question and seek to place this fact in a (causal) relationship with other facts. In this sense – which reflects the Greek origin of the term *theory* as beholding – we form certain beliefs about the person as an external object. These beliefs reflect our own thought models in that we make certain features more salient than others and thus certain facts more relevant than others.

The second way of holding someone responsible is in a *practical* sense, looking to understand and share their reasons. From this perspective, an action is interesting not as a simple fact to be described and explained, but as a culmination of a process of practical reasoning. To access such reasoning, we need to place ourselves in a relationship with the person and inquire into their thinking, asking into their reasons. In effect, this opens the door to the person's first-person ontology and thus the way in which the future makes sense to them.

More broadly, the two approaches just outlined represent two distinct ways of using reason:

reason has two employments, theoretical and practical. We view ourselves as phenomena when we take on the theoretical task of describing and explaining our behaviour; we view ourselves as noumena when our practical task is one of deciding what to do. The two standpoints cannot be mixed because these two enterprises – explanation and decision – are mutually exclusive’ (Korsgaard 1996, p.204).

This contrast between explanation and decision reflects an even broader contrast between causality and freedom as theoretical and practical conceptions. Most crucially, there is no standpoint from which both of them apply: ‘For freedom is a concept with a practical employment, used in the choice and justification of action, not in explanation or prediction; while causality is a concept of theory, used to explain and predict actions but not to justify them’ (Korsgaard 1996, p.204).

If both standpoints cannot be adopted simultaneously, a scholar needs to adopt one or the other. This is tantamount to choosing which world to occupy: the world of the entrepreneur or the world of the scholarly community. Choosing the latter as a standpoint of causal explanation naturally creates a distance with the entrepreneur and entails external observation, which – as outlined earlier – necessitates the adoption of a thought model or the theory in the language of which causality will be explained. Entrepreneurs become objects or collections of facts to be arranged into a theoretical story. This is the traditional stance of science as an endeavour seeking to describe and explain.

Choosing to occupy the world of the entrepreneur is a standpoint of freedom, whereby we accept entrepreneurs as moral and rational agents, accepting the ends they choose and seeking to understand the practical reasoning behind the actions they undertake. Entrepreneurs thus become real, vivid decision makers (as opposed to theoretical constructions)

with whom we can discuss practical reasons, enabling us to consider what it is like to undertake their actions.

It is important to highlight here that the bifurcation between explanation and prediction on the one hand and choice and justification on the other arises only in the social sciences, particularly when an individual person is the focus of inquiry. This represents a unique situation – linking back to the earlier discussions of self-reference – in which the object of inquiry can talk about themselves and give account of what they are doing. By this token they can communicate with the scholar and thus provide their own first-person view of the matter. In contrast, an object of inquiry in physics or chemistry – an electron or a molecule – cannot communicate with us. We can develop theories that account for their properties and motion, but the question of self-reference does not arise. The electrons or molecules ‘communicate’ with us only via the facts established by observational instruments, which in turn derive their meaning by virtue of the theory that weaves them together.

In summary, in studying entrepreneurship, a scholar faces a choice of standpoint between causality and freedom, between explanation and understanding, between the theoretical model of an academic community and the entrepreneur of practice. In the former, the scholar places her loyalty in a theoretical model as the gateway to causal explanation. In the latter, loyalty rests with the entrepreneur as a moral and rational agent, with whom to engage in the sharing of practical reasons.

4. Scholar and entrepreneur

Chapter 3 outlined two forms of scholarly loyalty: (1) loyalty to the theoretical model of an academic community and (2) loyalty to the practical reality of the acting entrepreneur. They reflect different stances that a scholar can adopt in regard to ascribing responsibility for an entrepreneur's actions, with one grounded in the causal explanations of theory and the other in the understanding and justification of practical reasons. The stance is essentially a choice that a scholar makes implicitly in defining their ultimate loyalty.

PRECISION VERSUS SCOPE

Being a scholar entails pursuit of academic or scientific knowledge. Such knowledge rests within specific academic disciplines and operates its own thought models. They are necessary to see (represent) reality and each thought model represents a branch of knowledge and thus an alternative description of reality.

Each thought model creates an ontology – that is, basic building elements – through which reality is described, as illustrated in Figure 3.1 earlier. Thus, economists focus on agents and choices, psychologists on motivation and cognition, sociologists on structure and norms, and anthropologists on cultural practices. Equally, accounting scholars focus on control systems and financial performance, finance scholars focus on capital structure and capital markets, marketing scholars focus on brand characteristics and consumer behaviour, operations scholars focus on the design and control of production and procurement processes, strategy scholars

focus on the formulation and implementation of goals and plans for value creation, human resource scholars focus on the management of people.

As these are alternative descriptions of the same unified reality of an acting entrepreneur or an operating business, there is no external basis for determining one as inherently better than the rest. The utility and choice of model arises from the substantive shared interest of the academic community behind it. Some scholars are interested in balance sheets, others in people. Each model highlights certain aspects of the world while downplaying others. Thus, the unified world of the entrepreneur is broken down into different worlds, each defined or made by a different academic community.

There is the world of X, in which the entrepreneur is at the periphery, one of many possible manifestations of the world of X. For example, the entrepreneur engages in marketing, but so do established businesses, government agencies and charities. And there is the world of entrepreneurship – of a focal entrepreneur – in which a disciplinary thought model is at the periphery, one of many ways to look at the situation at hand. For example, the entrepreneur needs to establish accounting and reporting systems, raise funding, build relationships with customers, design operations, formulate strategy and manage people.

The question is which of these two interplays takes precedence. A scholar can ‘crop’ the cases of entrepreneurship to the parts that are visible within their particular thought model, blurring out the rest of what entrepreneurs do or deal with. Or the scholar can appreciate the multiplicity and complementarity of thought models when looking to appreciate the world of entrepreneurship as a holistic case. Figure 4.1 illustrates this implicit choice as (1) commitment to a thought model and using it to see different cases in a similar light; and (2) commitment to a holistic case and using different thought models to see its different aspects.

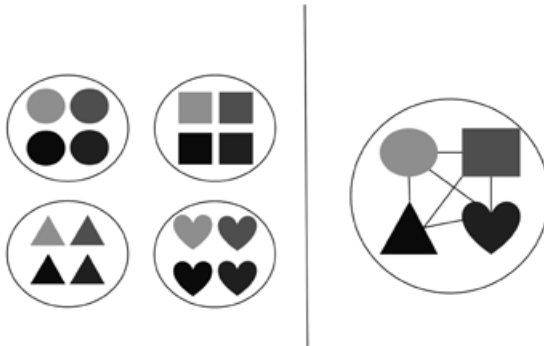


Figure 4.1 Commitment to thought model versus holistic case

In the first case, one becomes an expert on only certain aspects of entrepreneurship, for example entrepreneurial cognition, entrepreneurial teams, entrepreneurial marketing or entrepreneurial strategy. There is deep knowledge of the academic literature that spans the broader domains of cognition, teams, marketing and strategy, within which ‘entrepreneurial’ becomes one specific context or manifestation. In contrast, in the second case, one focuses on how issues related to cognition, teams, marketing and strategy interact and fit together within an overall entrepreneurial effort.

The contrast between the two commitments can be understood through the dilemma of precision versus scope (McGrath 1982) in the context of a particular case. One can increase precision (reduce noise) by zooming into particular aspects of the case, to reduce the scope of study and thereby learn more about less. Alternatively, one can retain the full scope of the case by accepting noise (that is, individual aspects will be less deeply known) and thereby learn less about more. In a crude form, a specialist emphasizes precision and thus knows a lot about a little; a generalist emphasizes scope and thus knows a little about a lot. In the process, the specialist retreats to the

‘high ground’ of well-defined problems that lend themselves to technical solutions, while the generalist – by virtue of embracing the full scope of the situation – remains in the ‘swampy lowland’ of confusing problems of many interacting parts that defy technical solutions (Schon 1987). This is illustrated in Figure 4.2.

In the first case in Figure 4.2, the academic becomes a specialist on theory but a generalist on practice (for s/he examines slices of different practical cases). He has deep knowledge of a particular theory or perspective and can thus offer insights to entrepreneurs when they face challenges that can be illuminated by the particular perspective. In the second case, the academic becomes a specialist on practice but a generalist on theory (for s/he uses different theories). She builds familiarity with a particular entrepreneurial community and has a wide range of theories and perspectives at her disposal to help explore different facets of the problem at hand.

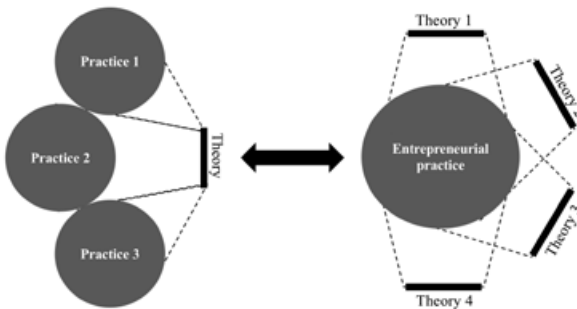


Figure 4.2 Scholarly choice of precision versus scope

When an academic loses sight of the parity of thought models as alternative descriptions of reality and thereby commits to a particular thought model – such as when they see them-

selves primarily as disciplinary scholars – the second option in Figure 4.2 never arises and thus the opportunities it affords become lost. Crucially, these are the very opportunities that hone the pedagogical and engagement edge of scholarship. After all, students look to learn about entrepreneurship in all its complexity and, when embarking on their own entrepreneurial journeys, they find themselves in the holistic world of entrepreneurship. They need to understand and cope with how the partial views of each discipline fit together within the whole.

OBJECTIVITY VERSUS SOLIDARITY

The knowledge stance just outlined represents a scholar's ontological commitment to entrepreneurship as an area of study. It answers the question 'what is entrepreneurship?' to treat it as its own distinct domain or as the playground of other domains. The former grasps entrepreneurship in a holistic manner, the latter does so in a reductionist manner, breaking the whole into discrete parts and focusing on each part in isolation. These fundamental starting points play the role of fundamental building blocks – just like sets of Lego pieces, Hama beads or Kinex pieces – from which we can build knowledge of entrepreneurship. The question that arises next is how we assign the status of knowledge to the insights we derive. When we refer to knowledge as justified true belief, there are implicit conceptions that we apply of what it means to be justified and what it means to be true. These are questions of epistemology, dealing with the fundamental premises we apply in determining what constitutes knowledge. Just as with ontology, there are different commitments that one can make, each offering different grounds for justification and conceptions of truth.

Epistemological considerations lie at the core of how we make sense of ourselves as humans. Rorty (1991) outlines two fundamental ways in which we do so: the first involves artic-

ulating a contribution to a community; the second describes a relationship to a nonhuman, external reality. These two approaches are grounded in desires for, respectively, solidarity and objectivity:

insofar as a person is seeking solidarity, she does not ask about the relation between the practices of the chosen community and something outside of that community. Insofar as she seeks objectivity, she distances herself from the actual persons around her not by thinking of herself as a member of some other real or imaginary group, but rather by attaching herself to something which can be described without reference to any particular human beings. (Rorty 1991, p.21)

To the extent that these basic stances represent choices, a scholar can subordinate one to the other. Thus, when one grounds solidarity in objectivity, the corresponding conception of truth is of correspondence to some external reality. The related epistemology thus involves justification procedures that prioritize certain sources of knowledge over others and emphasize methods for establishing correspondence. In this sense, knowledge has a foundation – the (true) representation of something external.

Alternatively, one can ground objectivity in solidarity and thus take a pragmatic view of knowledge as something that aims to fill the gap between the ‘actual good and possible better’, something that is ‘good for us to believe’, to be corrected when someone comes up with a better idea (Rorty 1991, p.22). In this stance, knowledge does not require an immutable foundation or a theory of truth. This is not a relativist position of ‘anything goes’, but rather an ethnocentric account of the procedures for justification that a given society uses. On this view, the claim that something is better does not rest on demonstrating correspondence to the nature of things but on contribution to the community.

There is a difference between claiming that there is a way that things are and claiming that they are in a particular way;

a difference between claiming there is a reality and claiming that it is of a particular kind. Reality is thus amenable to different descriptions, some better than others based on the purposes for which we use them. We go full circle here to Goodman's ideas of alternative descriptions as making different worlds and of the value of categorical schemas as related to what they can do (or what we can do with them). In the emphasis on purpose and value, we also reconnect with Aristotle's ideas of the nature of truth when applied to *techné* and *phronesis*, or the realms of making and doing.

The duality of objectivity and solidarity arises from the fact that we study humans (entrepreneurs) and their activity (entrepreneurship). This brings to the fore another fact, namely that as scholars (also humans) we stand in a certain relationship with the entrepreneurial persons we study. Looping back to Korsgaard's ideas from Chapter 3, we can treat the entrepreneurs and their actions as *objects* of study – a collection of external, established facts to be weaved into a theoretical story of causal relationships to other facts. We send knowledge 'probes' onto these objects to develop a third-person account of their nature. Knowledge in this sense is something that is value neutral and person-, context-, history-free.

Equally, we can treat the entrepreneurs and their actions as *subjects* with worldviews, purposes and aspirations. Affording the respect of their own ends means that the scholar not so much explains them as addresses them, in a spirit of solidarity with their purposes, aiming to make contributions towards advancing their aspirations. Knowledge in this sense is something that is contingent on purpose and values, and helps take the entrepreneurs and the communities they serve to a 'possible better'.

It is important to emphasize that the choice of objectivity versus solidarity is not faced by scientists of nonhuman subjects, for example, a physicist studying elementary particles. The particles studied cannot be seen as anything but objects. They are not something to which we can relate in a human

sense, a community with which we can communicate or express solidarity. Thus, the choice of objectivity versus solidarity is unique to the social sciences – of which entrepreneurship is part – and particularly those domains of the social sciences in which a living, thinking, aspiring person is the unit of analysis. In this sense, the social sciences span the natural sciences and the humanities, with the former grounded in objectivity and the latter grounded in solidarity (understanding the human condition).

The two stances of objectivity and solidarity relate to a scholar's looking respectively *at* entrepreneurs, as objects, or *with* entrepreneurs, towards a solidary future. When we look *at* someone, we see what is behind them, that is, their past, what they have already done and made. In contrast, when we look *with* someone, we see what is ahead of them, that is, their future, with all the possibilities for things to be made and done. These two stances reveal an interesting tension, for the past is fixed and the future is fluid. There are no past possibilities, in the sense that the past is a set of known facts that can be asserted, proven or refuted; and there are no future facts, in the sense that every proposition about the future has fractional truth about it, that is, it cannot be refuted outright (Brumbaugh 1966).

In an interesting way, then, objectivity and solidarity represent commitments to, respectively, facts and possibilities, to getting something right and making something better. These in turn give rise to two different attributions when entrepreneurial efforts do not work out: 'the entrepreneur did not know' and 'the entrepreneur thought s/he knew'. In the first case, we question the veracity of the entrepreneur's beliefs by arguing they could have known better if the necessary information had been collected and analysed, a 'God's-eye justification' (Toulmin 2003, p.218). In the second case, we accept the inescapable fallibility of the entrepreneur's beliefs.

More broadly, these attributions rest on qualitatively different arguments, namely analytic and substantial (Toulmin

2003). The former is airtight by virtue of resting on formal logic, while the latter involves a leap that cannot be logically proven. An analytic argument operates with facts and thus involves the application of standards that can only be applied retrospectively. In contrast, a substantial argument operates with possibilities and thus the means that could give rise to them. In this latter case, beliefs become intellectual instruments that can be tested through the consequences of acting upon them: 'any belief as such is tentative, hypothetical; it is not just to be acted upon, but is to be framed with reference to its office as a guide to action' (Dewey 1960, p.277).

There is misalignment when a scholar emphasizes objectivity and is thus committed to facts, whereas the entrepreneur pursues the possibility of a better world. The scholar aims to exercise rigour in the production of knowledge, when what makes knowledge relevant is its instrumental utility in providing a frame for shaping the future (that is, operating within and advancing the first-person ontology of visions and aspirations). This creates the impossible striving for what Dewey (1960) terms 'antecedent possession of actuality', or the sense that the 'content' of entrepreneurial visions must stand for something identifiable in the world and not just someone's imaginary future.

To resolve this misalignment, we need to distinguish scholarly inquiry into the natural (what already is, taken for granted) from scholarly inquiry into the artificial (what could be). This distinction is easily overlooked when one is driven by physics envy in the pursuit of theory and thus tends to see the world exclusively as facts to be explained. But we operate in the realm of the human and the social, and with these comes the fundamental role of concepts in generating meaning and guiding what we do. As Brandom (2000) elegantly articulates, what makes people sapient rather than merely sentient is their use of concepts, that is, engagement in discursive practices, whereby they use concepts to communicate. Concepts have an expressive role that underpins the symbolic nature of human

action: ‘once concept use is on the scene, a distinction opens up between things that have natures and things that have histories’ (Brandom 2000, §96). In an entrepreneurial sense, things also have futures.

To summarize briefly the argument so far, the category ‘entrepreneur’ arises from a first-person aspiration and effort to change the world in a particular direction. Such action becomes a focal point in an otherwise amorphous world, a particular present that separates a past and a future. Thus, to take a stance of objectivity and commit oneself to operating with facts is to look at entrepreneurship as something already accomplished, something of the past. In this sense, the entrepreneur is not interesting to us until they have done something, that we in turn seek to explain. In contrast, to take a stance of solidarity with an entrepreneurial community and commit oneself to the possibilities of their better-world aspiration is to look at entrepreneurship as something yet to be made and done. We are interested in coping with the world, in generating knowledge that is useful for certain open-ended purposes.

In one case we describe, in the other we design. These represent distinct types of inquiry, to which we now turn.

DESCRIPTIVE VERSUS DESIGN SCIENCE

Simon (1996) drew a seminal distinction between natural and artificial phenomena. Natural phenomena are defined by *necessity*, as something taken for granted and assumed to exist. Artificial phenomena are defined by *contingency* in that they are seen as arising at the interface between goals and purposes on the one side, and external constraints on the other. The contingency is expressed in the counterfactual consideration that they could turn out differently under different circumstances. In this sense, fields such as engineering, medicine, business, architecture, painting, planning, economics,

education and law are concerned with design, that is, not with how things are, but with how things ought to be.

Based on this distinction, a new firm and thus the entrepreneurial effort behind it can be treated as both a natural and artificial phenomenon. In its natural sense, it is taken for granted as something to be described, analysed and explained. In its artificial sense, it is seen as something designed or constructed by someone with a certain purpose and operating in a certain context. When the new firm or venture is only imaginary – representing what a ‘live’ entrepreneur aims to do – we have only an artificial phenomenon (in the making) at hand.

In what ways can we research or study natural and artificial phenomena? There is a familiar distinction between basic and applied research. Basic research aims to create scientific knowledge without concerns with specific practical application. Applied research aims to create knowledge to fulfil a particular practical purpose. Thus, basic research pursues the ‘epistemic utilities’ of truth and information, while applied research considers in addition the ‘practical utilities’ of simplicity and manageability to generate instrumental value for human activity (Niiniluoto 1983).

To elaborate the differences between basic and applied research, Niiniluoto draws further distinction between descriptive and design science. The former describes facts about the world and thereby generates scientific explanations. The latter aims to create instrumental knowledge that enhances human art and skill. To appreciate the nature of design science, Niiniluoto distinguishes a profession (such as an accountant) from the related practice (accounting), art or skill needed in the practice (such as the art of accounting) and a design science aimed at improving the art (such as accounting science). Design science thus offers normative statements – technical norms – that, while lacking truth value, constitute knowledge by virtue of offering a relation between means and ends. The difference between design and descriptive sciences lies in that technical norms offer not descriptive statements

about the world, but suggestions for what the world ought to be in order to attain certain goals.

Most importantly for our purpose, Niiniluoto argues:

It should be emphasized that the border between descriptive and design science splits many scientific disciplines. Let *S* be some activity which can be studied by science, e.g., *S* might be farming, nursing – or science itself which is the object of ‘science studies’. Then descriptive research of *S* includes at least the history of *S*, the psychology of *S*, the sociology of *S*, and the economics of *S*. Basic research about *S* tries to describe the present state of *S* and to establish some systematic regularities about *S* – in this way, we may speak about basic research within technical sciences, life sciences, medicine, social sciences, and jurisprudence. Design science contains only a part – the practical kernel, so to speak – of these disciplines. (1983, p.14)

Relating this to entrepreneurship, the distinction between descriptive and design science of entrepreneurship echoes the discussion in the previous chapter between entrepreneurship as a phenomenon and a distinct domain. One seeks to describe facts about entrepreneurship, while the other aims to produce instrumental knowledge for enhancing the art and skill of entrepreneurship. This idea is illustrated in Figure 4.3 as a scholarly choice of engagement with the status quo in terms of the facts of its past or the possibilities of its future.

Design science is about studying systems that do not yet exist, about exploring whether something will work rather than whether it is true (Romme 2003). As such, it must be grounded in real-world problems and create artefacts that serve human purposes. As March and Smith (1995) argue, design and descriptive science are interrelated in three ways: (1) the artefacts created through design can become the subject of descriptive scientific inquiry (that is, as something that already exists); (2) artefacts are created with understanding of the laws (explanations) established by descriptive science; (3) the effectiveness of artefacts can provide substantive tests and impetus for further descriptive science research (such as

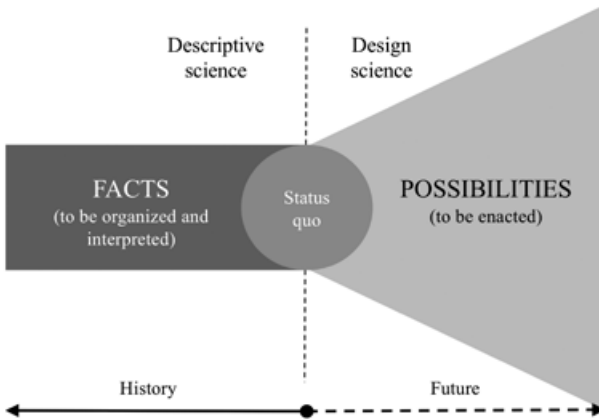


Figure 4.3 *Scholarly choice of descriptive versus design science*

generating new explanations to accommodate the new facts and explain why things worked or did not work).

The two modes differ in the nature of research activities carried out. While descriptive science theorizes and justifies, design science creates and evaluates. The former is concerned with building a theoretical description that can be assessed for its goodness of fit against a set of facts. The latter is focused on creating tools for achieving certain goals and then evaluating whether these tools are fit for purpose. In both cases, research activities produce certain outputs – namely constructs, models, methods and instantiations – the nature and use of which differs with the mode of research in which they are embedded (March and Smith 1995).

Constructs represent the concept or basic vocabulary that we use to organize our thinking around the phenomenon or task at hand. Examples in the entrepreneurship space include customers, value proposition, business model, business plan,

and so on. In a descriptive science mode, a construct is used to denote or represent (Chapter 1) entities from the world of practice and thus express them in theoretical language. In contrast, in a design science mode, the construct plays a reference role, operating as a gateway for engaging with our practical task, a way of framing the problem at hand.

Models capture relationships among constructs as a way of creating a map of the situation at hand. In a descriptive science mode, models constitute rigid representations that need to be verified. In a design science mode, models are used to visualize the problem at hand and ‘interrogated’ or played with as a way of reaching a satisfactory solution. For example, one model can posit a relationship between human capital and business planning with venture development or performance; another can be a sketch of how a venture is to operate as a way of exploring how different parts can fit together.

Methods articulate the steps or procedures necessary to carry out a task. In a descriptive science mode, the method represents a rigorous, prescribed methodology to be followed, such as for data collection or analysis. In a design science mode, methods can be produced as ways of dealing with the problem, such as considering ways of visualizing data or synthesizing it in a framework table to facilitate decisions.

Instantiations refer to the realization of artefacts as operationalization of constructs, models or methods in order to demonstrate their feasibility and effectiveness. In a descriptive science mode, this can be the application of a new operational definition, the testing of a new model or the carrying out of a new estimation method. In a design science mode, it pertains to the implementation of a particular solution in the form of a working artefact and recording its effects, such as testing a product prototype with a small group of customers.

More broadly, the distinction between descriptive and design modes of inquiry relates to Aristotle’s (1999) distinction of the intellectual virtues of *episteme*, *techné* and *phronesis*, outlined in Chapter 1. In the realm of *episteme*, we

contemplate things with invariable causes that we describe in the form of scientific, theoretical, value-free knowledge (universal truths). Such knowledge tells us how things are, but cannot tell us how they ought to be. In the realm of *techné*, we apply the art and craft of making something. In the realm of *phronesis*, we apply our practical wisdom in judgement and action. Design science helps enhance our art, craft and practical wisdom, generating technical norms that have no truth value but are relative to values and instrumental for purposes. It tells us how things ought to be in view of these values and purposes.

A COMPLEX TASK

What emerges from the preceding discussion is that the realization of an entrepreneurial aspiration as the pursuit of the possibilities of a better future is concerned with design, that is, not with how things are, but with how things ought to be for the entrepreneur's goals to be achieved. The path followed is not something that is predetermined, but unfolds in the twists and turns of what can be described as an entrepreneurial journey (McMullen and Dimov 2013). It is a series of moving 'presents' in which possibilities turn into actualities, the previous future becomes the current past, and new future possibilities arise to be dealt with. In other words, the journey is a series of contingencies to which the entrepreneur responds in a recursive manner, that is, using the outcomes of previous actions as a context for and an input into deciding the next.

This meandering, iterative nature of the process reflects the complex, social nature of the task at hand: it cannot be enacted in one go, but is to be executed in small steps, one at a time, with the gradual engagement and commitment of others. In realizing their visions, entrepreneurs weave together relationships and create artefacts. Although their pursuits may appear quite diverse at first, in an abstract sense they share a common structure.

When asked to describe their visions, entrepreneurs need to specify several essential elements: (1) *object* of activity, in this case new goods, services, raw materials or organizing methods; (2) the actual *making* of that object, which comprises the activities, objects and people associated with production, distribution and sales/marketing, that is, getting the object of activity to the point or place where it is ready to be exchanged or implemented; (3) *selling* the object to others, which involves communicating, negotiating and contracting with others; (4) a *financial tally*, whereby the income from the sale exceeds the costs of production, in order to make the entire effort financially viable.

Aligning these elements represents a design problem for the entrepreneur, with three fundamental parts: market desirability, operational or technical feasibility and financial viability (Dimov 2016). In other words, there needs to be actual demand for the product or service in the market (someone needs to buy it), the product or service needs to be of a requisite quality and price to meet that demand (someone needs to make it) and the economics of the effort need to work out over time (the effort needs to be profitable). Dealing with this complex design problem over time introduces a fourth element to the design journey, namely the effort and energy of the focal entrepreneur. It is not unusual that entrepreneurs burn out or otherwise exhaust their resources before their efforts are complete.

This complex task involves both making and acting (that is, *techné* and *phronesis*). A blueprint needs to be created, a product needs to be made or manufactured, a service needs to be delivered, an organization needs to be built. Equally, all the productive resources associated with these – infrastructure, people, know-how – need to be acquired and coordinated, which involves making decisions, communicating, negotiating, managing. There is thus a question of *techné* – art and craft – associated with the production/execution of individual elements. And there is also a question of *phronesis* – practical wisdom – associated with pulling and holding

the entire entrepreneurial project together. This is a similar interplay between a whole and its parts, between the entire, complex project as a collection of tasks and the individual tasks as requiring specific expertise.

It is therefore helpful to consider the entrepreneurial effort through the lenses of a hierarchy of human activity as outlined by Engeström (2015). He distinguishes a level of overall activity regulated by motives or purpose, a level of the constituent actions regulated by goals and a level of operations regulated by conditions. This is illustrated in Figure 4.4.

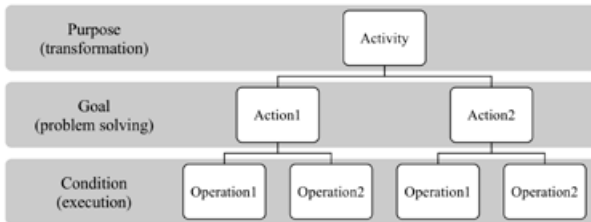


Figure 4.4 *Hierarchy of human activity*

The design problem arises at the level of the entrepreneur's overarching activity, in which s/he aims to transform existing activities or elements to fulfil a given purpose. Operating at that level helps define the problems to be tackled, and in what order. This is the nerve centre of the overall process, providing a blueprint that helps to hold the process together, evaluate its progress and provide continuity over time. At the level of constituent actions, the entrepreneur engages in solving the individual problems of market desirability, operational feasibility and financial viability. Operating at that level helps define specific goals to be delivered and associated tasks to be executed. Thus, each of these actions requires a set of operations to be executed with a certain level of skill.

Therefore, in the very articulation of an entrepreneurial aspiration, and in between that initial idea and its ultimate realization as an operating venture, lies a continuous exercising of art and skill. They are subject to continuous learning and infinite improvement as a contribution to the practice of entrepreneurship. When one's entrepreneurial efforts are successful, there is room to reflect on what has gone well and what elements of art and skills could be retained as good practice. Equally, when efforts are not successful, much reflection can be done on what could be done better and what new tools might have been helpful.

5. A framework for scholarly enquiry

We are now in a position to bring the ideas of the preceding two chapters together into an overall framework for scholarly inquiry. The framework rests on two fundamental choices that a scholar makes in approaching the subject of study. There is, first, the question of scholarly identity or allegiance that defines the inquiry in terms of the interplay between precision and scope. In Chapter 3, this was articulated as a choice between the theoretical model of an academic discipline and the practical reality of the acting entrepreneur. Chapter 4 elaborates this further as pursuing greater precision through specialization versus retaining the full scope of entrepreneurial practice through a holist or generalist stance. In one case, there is commitment to a thought model, which is then used to see different phenomena in a similar light. In the other, there is commitment to a case, using different thought models to see its different aspects.

The second choice relates to engagement in descriptive versus design science. In Chapter 4 this was articulated as a choice of commitment to describing the world as it is, synthesizing and relating facts about entrepreneurship, or to exploring the world as it could be, producing instrumental knowledge for enhancing the art and skill of entrepreneurship. In the first case, one engages in basic research in pursuit of the epistemic utilities of truth and information. In the second case, one engages in applied research, focusing in addition on the practical utilities of simplicity and manageability to improve human activity.

At the intersection of these choices lie basic stances of objectivity and solidarity. Objectivity defines knowledge in terms of true representation of some external reality, thereby valuing its correspondence to the nature of things. Solidarity defines knowledge in terms of filling the gap between the ‘actual good and possible better’ for some community, thereby valuing its contribution to the community. In one case, we look *at* entrepreneurs as objects; in the other we look *with* entrepreneurs as future-shaping subjects.

FRAMEWORK OVERVIEW

Figure 5.1 illustrates the framework for scholarly inquiry. The interplay of the two dimensions – and the fundamental choices they represent – creates a metemap of scholarly inquiry. It consists of four distinct modes or styles of inquiry: theoretical, integrative, craft and clinical. Each of these styles reflects a distinct combination of scope and type of science.

The horizontal dimension (scope) pertains to the commitment to a thought model versus holistic entrepreneurial case, that is, approaching the inquiry as a specialist or a holist/generalist. When one adopts the focused stance of a specialist, one maintains loyalty to a particular discipline or thought model. This entails reducing the entrepreneurship inquiry to only some aspects of it, akin to dissecting the whole to focus on specific parts. Thus, certain questions or problems could be deemed out of scope. Falling within this dimension are the theoretical and craft styles of scholarship.

When one approaches the inquiry as a holist or generalist, one maintains loyalty to the full scope of the case, in its complexity of interconnected parts. This entails understanding all the different parts and elements and how they fit and work together. No questions or problems are out of scope here. Falling within this dimension are the integrative and clinical styles of scholarship.

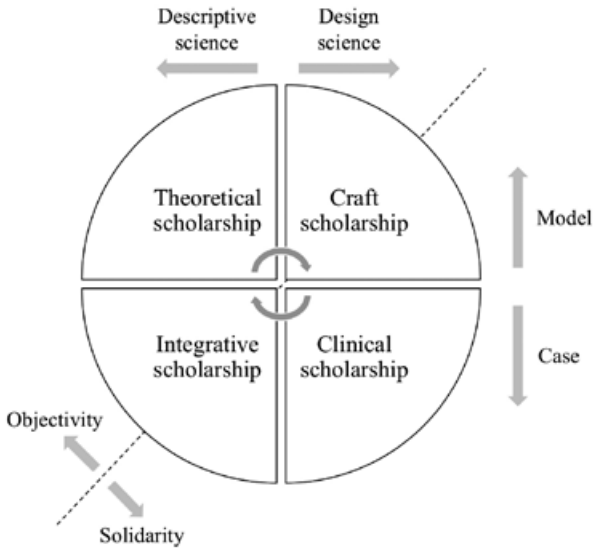


Figure 5.1 *Styles of scholarship*

The vertical dimension (science) pertains to the commitment to descriptive versus design science. When one approaches inquiry within the frame of descriptive science, one focuses on the world of entrepreneurship as it already is, looking to identify, describe and explain facts about it. The main focus is on theorizing and justification. This entails formulation of constructs, relating them together in a model, developing methods for testing these models and carrying out the specific instances of testing. Models can reflect different types of explanation, such as variance or process. Methods can be both quantitative and qualitative. And the instantiations can be both a regression table and an inductive data map. The theoretical and integrative styles of scholarship fall within this dimension.

When one approaches inquiry within the frame of design science, one focuses on improving the art and skill of entrepreneurship and thus contributing to entrepreneurial practice. The main focus is on creation and evaluation. This entails articulating constructs, putting them together into frameworks or models, specifying methods for doing certain activities or achieving certain goals and testing these approaches in specific situations. The craft and clinical styles of scholarship fall within this dimension.

Coming full circle to where the book started, it is now possible to relate the four forms of scholarship and their contribution to the opening discussion on the nature of knowledge. Specifically, scholarship adopting descriptive science is primarily concerned with critical verbal rigour and thus the creation of better forms of representation. On the other hand, scholarship on the design science side is concerned with making a difference and detecting differences in the realm of practice. The frames provided by concepts and models play important but different roles in both cases. Descriptive science builds concepts and models *of* reality, aiming to 'tame' practice by capturing its history. Design science uses concepts and models *for* reality, using them as gateways to discovering better forms of practice, thereby unleashing its future.

Similarly, the interplay between precision and scope relates to the interplay between map and territory. A specialist approach is tantamount to building a particular map (such as physical, political, industrial, transportation) that highlights certain differences and not others. A holist or generalist approach is tantamount to building a collection of maps to get comprehensive understanding of the specific territory.

The following sections will present each style of scholarship in greater detail. They will articulate the distinct contributions made by each of the styles, as illustrated in Figure 5.2. These contributions are defined by analytical scope and utility of the generalizations they aim to make. Analytical scope arises by virtue of how one partitions the observation space to

maximize the coherence of what is considered the same and sharpen the boundaries with what is considered different. The boundaries are drawn around – and thus the generalization made to – a (partial) model or a holistic case. Utility arises by virtue of the type of science one wishes to pursue. The epistemic utility of descriptive science focuses on facts and relationships. The practical utility of design science focuses on art and skills.

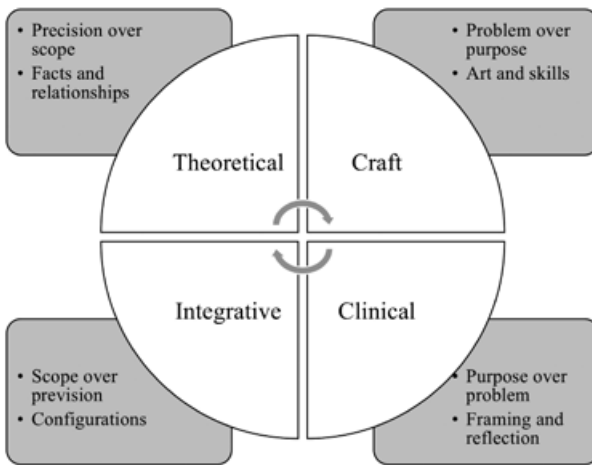


Figure 5.2 Framework for scholarly contributions

The discussion of each form of scholarship will be grounded in a hypothetical example of a situation that triggers research inquiry. Imagine encountering an entrepreneur who shares with you that s/he has difficulty planning; or you read an article about the difficulties that entrepreneurs face when

planning. Driven by curiosity to understand more, you engage in inquiry, seeking to generate new knowledge.

THEORETICAL SCHOLARSHIP AND CONTRIBUTION

In theoretical scholarship, there is disciplinary focus or specialization in terms of a particular knowledge domain and its thought models, as well as commitment to descriptive science with its emphasis on facts and relationships. This entails grounding one's research questions in particular theories and mastering their concepts and associated methodologies. The emphasis of empirical work is on testing theoretical propositions, assessing the degree to which they can account for patterns in empirical data. In this sense, generalization is made to the underlying theory, aiming to increase its consistency at the expense of limiting its coverage of individual cases. In other words, this approach aims to extract maximum similarity from a large number of cases.

A key consideration in this scholarship is the creation of a 'clearing' in which the adopted theoretical model can operate in its pure form. This is akin to Schon's (1987) idea of the 'high ground' of well-defined problems. The clearing operates via two main mechanisms. First, there needs to be a precise definition of the key constructs of the model. Second, there is the application of the *ceteris paribus* qualifier, whereby one pays close attention to the boundaries within which the adopted theory operates. Whether such boundaries actually exist in the real world is of secondary importance. Therefore, research questions are driven by the filling of theoretical gaps. They relate to underspecified relationships or boundary conditions, or the specification of nuancing relationships such as moderation or mediation.

In the planning example, the inquiry would begin with a search for literature on the topic of planning, gathering a vast number of papers and looking through them to distil patterns

and the current state of knowledge. You enlist a number of factors and concepts used in this work and weaved into different theoretical models. Some look at planning from the point of view of the background and experience of the entrepreneur; others examine it as a group process; yet others consider it as related to the structure of the industry and characteristics of the environment. In the name of making theoretical inroads, you choose one of these domains for deeper engagement and look for gaps or contradictions. They form the basis of your research questions and you turn your hunches into hypotheses to be tested. You then devise a research strategy and a data collection methodology in order to provide unambiguous answers to your questions. Your main contribution is to the theory which grounded your engagement with the problem.

Theoretical contribution emphasizes precision over scope, that is, the reduction of noise at the expense of the scope of the claims to be made. In this regard, the contribution pays close attention to the how and when of the relationships within the model. The focus is less on expanding the scope of the theory by bringing boundary conditions into the model than on specifying the mechanisms through which existing relationships work and the conditions at which the strength or direction of these relationships may change. Thus, the contribution can arise through the introduction of new constructs or refining existing constructs, proposing new models or reconfiguring existing models, proposing new methods or refining existing methods and using these constructs, models and methods in empirical research to demonstrate their explanatory power.

Theoretical scholarship is currently a dominant mode among entrepreneurship academics. It is reflected in the research norms of conducting research that is theory driven, that is, grounded in a distinct theoretical perspective or academic conversation and designed to make a distinct contribution to theory. Its value lies in providing critical verbal rigour and creation of better forms of representation. It aims to *get the world right*, rather than *getting to the right world*.

INTEGRATIVE SCHOLARSHIP AND CONTRIBUTION

In integrative scholarship, a holist/generalist stance is taken on the entire practical reality of acting entrepreneurs and the commitment to descriptive science, with its emphasis on facts and relationships. This entails familiarity with a broad range of theories and perspectives, with the goal of fitting them together for a more holistic understanding of particular entrepreneurial cases and entrepreneurial practice more broadly. The focus here is on what is different or missing, to be highlighted and integrated. The empirical testing of such integration thus aims to ensure that no significant gaps remain in understanding the case. In other words, this approach aims to ensure maximum coverage of particular cases and emphasize distinction across cases via the distinct configurations of factors they contain. Thus, extreme or unusual cases are particularly interesting, for they help highlight aspects that may generally remain hidden in other cases.

A key approach in integrative scholarship – as one considers more and more disciplines and perspectives – is the reduction of the resulting complexity by moving to a higher level of abstraction, the generation of composite constructs that chunk together different facets of the case or the blurring out of certain specifics. This entails a focus on configurations and the distinction of core and peripheral conditions as different cases are compared.

In the planning example, having reviewed the literature on planning, with all its models and domains, you begin to think about how to fit them all together. You acknowledge that the extant work reaches into different scholarly communities, each with its own distinct language of theoretical constructs and relationships, which have specific meaning in the respective domain. In addition, you consider that planning is only one part of a broader entrepreneurial process and begin to think about the situations in which it is more or less relevant.

You engage with the entrepreneur and discover that the focus on planning arises from deeper preconceptions about how the process needs to play out or from the expectations of an investor community. Thereby, you begin to contextualize planning, turning it from a pure, isolated problem into something that is interconnected with other aspects of the entrepreneurial process.

Integrative contribution emphasizes scope over noise, that is, breadth over precision, aiming to remove boundaries and bring together the wide range of factors that are at play in any entrepreneurial situation. The focus is on an acting entrepreneur as a holistic case, understanding its different facets. In this regard, the contribution pays close attention to how different theoretical perspectives fit together, specifying the interfaces and relationships between them. Thus, the contribution can arise through the introduction of new composite constructs that capture distinct configurations of other constructs, proposing new models that bring together disciplines or theoretical perspectives, proposing new methods that enable the testing of disparate perspectives and the carrying out of all these in empirical research to demonstrate their explanatory power.

Examples of insights that arise from integrative scholarship include the distinction between necessity and opportunity-driven entrepreneurship. The former portrays entrepreneurship as a means of providing livelihood, and the latter as a means of pursuing edifying ambitions. These distinctions cut across a number of theoretical perspectives (socio-economical, motivational, human capital, and so on) and thus provide new composite concepts that chunk these perspectives together. In this way, integrative scholarship provides the means for building entrepreneurship-specific verbal rigour. It aims to get the world of entrepreneurship right.

CRAFT SCHOLARSHIP AND CONTRIBUTION

In craft scholarship, there is a focus on a specific knowledge or practice domain and its thought models, as well as commitment to design science. The latter implies focus on improving the art and skills of entrepreneurs, while the former limits this to a particular entrepreneurial problem or task such as fundraising, negotiation or planning. One develops familiarity with the specific practices, evaluates their effectiveness and works on their improvement by developing new tools or improving existing tools. In the sense used here, tools are not only physical artefacts but also include concepts, models and methods that underpin art and skills. These tools are to be tested in various ways, evaluating their usability and effectiveness.

A key approach in craft scholarship, in line with the tenets of pragmatist philosophy, is focusing on the gap between the actual good and the possible better. It becomes a conduit for synthesizing good practice and formulating improvements. One engages with entrepreneurs to understand how they approach a particular problem or task, searches for a range of tools, and considers how they can be used in the specific situation. In this regard, within the hierarchy of activity, craft scholarship operates at the level of action, focusing on the problem to be solved and improving the tools and operations involved.

In the planning example, you engage closely with the entrepreneur to understand what she currently does, and for what purpose. This is to help tease out and define the problem that planning is aimed to solve. In turn, these help inform a search of the broader academic and practitioner literature for useful concepts and models that could be applied in the current case. You consider that the current problem is about dealing with uncertainty and recognize, for example, that this is what discovery-driven planning is designed to do. Next, you

explore how this tool might be used, focusing on identifying the key parameters that should be monitored and reevaluated. The entrepreneur begins to work with the tool and you discuss ways in which it could be made simpler or more effective. In adapting this tool for the specific industry and market, you create an artefact that improves the art and skill of the entrepreneur.

Craft contribution emphasizes the practical utility of simplicity and manageability. The goal is to turn problems into something that can be dealt with, creating affordances for thinking and action. The guiding questions here are whether the tools help or work, in the sense that they enable entrepreneurs to do something new or better and lead to some positive results. This entails making tools clearer and easier to use, or creating new tools to deal with the evolving nature of the focal problems.

A major aspect of improving the art and skills of entrepreneurship is teaching and learning, whether in a formal classroom setting with students as prospective entrepreneurs or in a field setting with individual organizations or a community of entrepreneurs. Thus, the scholar's role as a teacher can make a major contribution in terms of craft scholarship. Working with the maxim that the best way to understand something is to try to teach it, one can see the activity of teaching as a fundamental aspect of craft scholarship. In this sense, the classroom provides a setting for the testing and evaluation not only of tools but also of how such tools are structured, communicated and activated. Craft scholarship is about getting the right tools for solving problems.

CLINICAL SCHOLARSHIP AND CONTRIBUTION

In clinical scholarship, there is a holist/generalist stance towards entrepreneurial practice and commitment to design science. This entails familiarity with a broad range of prob-

lems and tools, with the goal of bringing these together under a systemic view of the task at hand. The emphasis is on the broader purpose that the entrepreneur pursues, on how it can be broken down into specific problems and on how these problems can be kept in alignment over time. Clinical scholarship is thus driven by a systemic view of the entrepreneurial effort, aiming to bring together a range of relevant models, each informing a different problem. It involves working closely with an entrepreneur as an engaged stakeholder in their purpose.

Clinical scholarship shares the focus of craft scholarship on synthesizing good practice and formulating improvements. At the same time, it takes a holistic perspective, which means retaining a sense of how different parts fit together towards the broader purpose. Current challenges are taken not as given problems to be solved, but as symptoms to be explored, for their underlying problems to be diagnosed. In this sense, within the hierarchy of activity, clinical scholarship operates at the level of activity, aiming to create a frame for organizing the entrepreneurial activity and transforming existing practices.

In the planning example, you engage closely with the entrepreneur to understand what she currently does and for what purpose. You consider that planning is intertwined with so many other aspects of the business, such as information systems, financial model, organizational structure, market orientation, competitive environment, and so on. The goal is to derive an overarching framework that can offer the entrepreneur a sort of dashboard for prioritizing problems and evaluating solutions in terms of their contribution to the broader purpose or course of actions.

Clinical contribution brings the underlying framing/problem definition to the fore, seeking to detach it from the entrepreneur by making it explicit. It demonstrates that different problems could be posed in a given situation, which would lead to different actions. Therefore, it examines the merits of

the framing of the situation given an overarching purpose. In terms of theory of action, this represents double loop learning (Argyris and Schon 1978), whereby what is taken for granted and implicit is made explicit and thus part of the decision calculus. Problems are not given but are defined/framed as part of the inquiry, thereby giving meaning to the situation and assigning priorities. A frame thus represents a working assumption or hypothesis to be tested, refined, discarded or replaced.

Teaching and learning are also major routes for clinical contribution. The focus here is on the development of reflective skills for understanding and honing one's judgement in entrepreneurial situations. One aspect of this is what Schon (1987) describes as reflection in action, that is, thinking what one is doing while doing it. This entails continuous consideration of current choices and the tree of further choices they open up. Possible moves are evaluated in terms of the desirability of their consequences, conformity to implications set by earlier moves, and their potential for opening new problems and moves. It makes one sensitive to the path-dependent nature of choices: 'At some point, he must move from a "what if?" to a decision, which then becomes a design note with binding implications for further moves. Thus, there is a continually evolving system of implications within which the designer reflects-in-action' (Schon 1987, p.100).

A second reflective skill pertains to stepping mentally out of the process to evaluate its overall course. Schon describes this as 'reflection on action', which informs the next moves to be made. The consequences of action – whether what happens can be deemed a 'good' or a 'bad' outcome – generate information about the (1) situation, (2) suitability of the framing, (3) suitability of the action (Argyris et al. 1985). Thus, in observing that a particular approach to planning does not really work, we could reflect on the features of the context that make the approach ineffective, on the way in which we

have posed the problem of planning or on the particular way in which we have carried it out.

Clinical scholarship recognizes that action can play multiple roles: (1) to test a hypothesis, (2) to explore the situation, (3) to change the situation (Schon 1983). These roles invite awareness and reflection at different levels. Such reflections can help formulate tentative action principles for future situations. They also help illustrate the distinction between craft and clinical scholarship. Both craft and clinical scholarship develop closer understanding of the situation, but clinical scholarship focuses on its framing and craft scholarship on the specific action. Clinical scholarship thus aims to get to the right world.

6. Awakening the entrepreneurial scholar

The framework for scholarly inquiry presented in Chapter 5 can now help facilitate the development of a more versatile, holistic entrepreneurial scholar. This entails having the ability to navigate all four styles of inquiry as ways of connecting the partial and the whole, theory and practice, the past and the future. If we imagine inquiry as circular rather than linear – as an ever expanding spiral – then each style of inquiry plays a distinct role in keeping the cycle in motion.

CALIBRATING FORCES

The role of each style of scholarship in this inquiry cycle is illustrated in Figure 6.1. The processes that make up the cycle chart the transitions from the partial to the whole (and vice versa) and from description to design science (and vice versa). We can refer to these as research moves of isolating/merging and representing/coping.

Each style can be described as a meeting point of two research moves. They play a calibrating role for the overall cycle of inquiry, developing new constructs, models, methods and instantiations along the way. In turn, as each style is immediately connected to two other styles, these research outputs can be refined and recombined as part of further research moves in pursuit of ever new research questions. An entrepreneurial scholar should be comfortable operating across all four styles, leveraging the strength of each style and mastering all four moves.

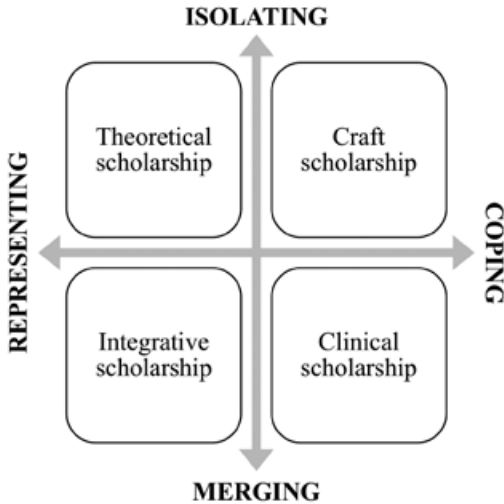


Figure 6.1 Calibrating forces

Theoretical and integrative scholarship focus on representing the world, that is, capturing it in concepts and relationships. They use insights from practice to generate theoretical explanation of why certain approaches/solutions work and others do not. Craft and clinical scholarship focus on coping with the world. They deploy constructs and models in entrepreneurial practice, looking to inform understanding of the problem at hand and create and evaluate artefacts for improving the art and skills of entrepreneurship.

Theoretical and craft scholarship isolate in pursuit of precision. They take some aspects of the world and seek to develop closer description and deeper explanation, or more refined tools and methods. Integrative and clinical scholarship merge, in the sense of seeking immersion into the world as whole.

They bring specialized knowledge into a broader, situational context, and look to fit together and align the different pockets of knowledge into an interconnected whole.

MOVING FORWARD

Theoretical scholarship is currently dominant in the community of entrepreneurship scholars. The emphasis on conducting research that is theory driven and focused on making a theoretical contribution locks in the processes of isolating and representing. This places the academic in a relatively passive role with respect to entrepreneurial practice. S/he waits for facts to appear – for things to happen – in order to describe and explain them. Research questions are considered meaningful if they are defined in terms of theoretical gaps rather than practical challenges. Looking at the world through an exclusively theoretical lens tends to ‘sterilize’ it, blurring the contingencies that define the entrepreneurial journey into the background under the *ceteris paribus* qualifier. In this sense, theory gaps often look unreal, defining hypothetical situations or configurations that are difficult or impossible to observe in practice.

Within theoretical scholarship, concepts are limited to their denotational role, naming and classifying things in the world. This creates an illusion of sameness in that instances are grouped together by virtue of being assigned to the same category. For example, we speak of entrepreneurial firms and of business plans in manners that downplay the ways in which these may be different. Such homogenization enables us to quantify and relate, providing methodological rigour and statistical inference. But these concepts operate in a categorical rather than a qualitative sense, treating qualitative differences as random noise (a bad business plan is still a business plan). Therefore, the research questions posed around them focus on whether they make a difference on average, as generic factors, rather than explore considerations of how they operate

or how they can be used better. Suggesting that a business plan matters for performance tells us little about what makes a business plan effective or how to write one. Seeking to answer these questions takes us naturally into the realms of integrative and craft scholarship and thus underpins the development of clinical expertise.

With this in mind, there are two main directions for development, in order to unlock the full framework for scholarship. The first is embracing design science as a form of inquiry. This is about looking forward to cope with the world, focusing on the possible better and working on ways to improve the art and skills of entrepreneurship. We would take existing theoretical frameworks and ask how they can be used and in what situations they can be useful. This invites leaps of imagination and creative expression. 'Our inviolable uniqueness lies in our poetic ability to say unique and obscure things, not in our ability to say obvious things to ourselves' (Rorty 1979, p.123). In this sense, validity arises not from getting something right but from showing that it is useful, that it works in enabling further action and opening things up. Usefulness is always for a purpose and this would make us sensitive to the purposes and situations in which the knowledge we develop can be used. Lewin's famous maxim 'there is nothing so practical as a good theory' reflects such a stance, whereby theory is evaluated in terms of its service of action.

The second direction is embracing the entrepreneurs' world-view (case) and the associated interdisciplinarity in bringing different perspectives together. This is about merging isolated pockets of knowledge into a holistic picture. The situation-, person- and value-free distillation that theoretical isolation achieves can strip concepts of their significance and relevance for human purposes: their extraction from the background whole severs the connections that make them intelligible to entrepreneurs in their everyday situations (Dreyfus 1991). In this sense, within the confines of theoretical scholarship, an encounter with a real-life entrepreneur can be an enervating

experience in the sense that the person is too ‘rugged’ to fit neatly into narrow theoretical conceptions. S/he invites a complex interplay of multiple theoretical perspectives, each of which can provide only a partial understanding of her or his situation. Embracing the entrepreneurial worldview is thus about casting aside disciplinary allegiance and developing solidarity with the entrepreneurial community.

Coming back to the social nature of the entrepreneurial effort, as discussed in Chapter 2, we need to soak ourselves in the social practices that make the entrepreneurial efforts meaningful and their purposes intelligible. This entails ‘seeing’ the mesh of orders and practices that provide the categories, meaning and embodied forms of entrepreneurial actions. Describing someone as ‘entrepreneur’ tells us nothing about what this means, about the opportunity that gives meaning to their actions. We need to knock at the door of their first-person ontology. Understanding the entrepreneur’s articulation of the opportunity entails identifying and understanding the practices in which he or she participates and the orders with which such practices are enmeshed.

In regard to orders, we would look at how people and artefacts hang together to occupy meaningful positions and create settings for interaction and coordination. We become sensitive to practices when we pay close attention to what people do and say. The meaning of these rests on a particular worldview, on practical reasoning that informs what to say and what to do in particular situations, on the tacit rules or principles that guide social life and on the ends, projects, beliefs and emotions that provide invisible structures for the entrepreneurial activity.

We need to be able to ‘see’ the entrepreneurs behind the concepts we use. Without this, entrepreneur and opportunity are lifeless categories within which we can subsume a large number of people and activities, without being able to say much meaningful about any of them. Making these categories alive requires stepping out from the third-person stance of the ivory tower to get closer to their first-person ontology. It entails

understanding their actions in a practical (rather than theoretical) sense, placing ourselves in a relationship with them to share reasons and improve their art and skills. This reflects a second-person stance, which can serve as a bridge between the first-person account of the acting entrepreneur and the third-person account of the detached observer. Such a stance ensures that nothing gets lost in the translation from doing to contemplating and vice versa. It completes Davidson's tripod, as it provides a means for knowing the entrepreneurs' minds and thus connects and integrates theory and practice. Theory becomes an aid to practice, not a distortion of it. And practice becomes an aid to theory, not a degradation of it.

The entrepreneurial scholar becomes a meaningful other, a confidant and conversant, a stakeholder in the future rather than a gardener of the past. S/he is as comfortable in the ivory tower of detached contemplation as in the 'swampy lowland' of engaged deliberation. S/he creates a space for thinking and reflection, and a space for doing and experimentation. S/he zooms in to isolate features of interest and zooms out to merge insights into holistic picture. These activities are held together in a quest for a possible better. In this quest, the entrepreneurial scholar becomes comfortable operating as a theoretician, craftsman, integrator and clinician.

We now come full circle to the three roles that academics perform within the university – research, teaching and service – with an enriched and expanded sense of what it means to be an entrepreneurial scholar. Each of these roles can be seen as a different manifestation of the cycle of scholarship. In each case, the entrepreneurial scholar assumes a second-person stance directed at a different audience, a different first person. In research, we engage with entrepreneurs as active change agents to help advance a better future. In teaching, we engage with students as prospective change agents to unlock their imaginations and energize their aspirations. In service, we engage with our university and social institutions as enablers of change to ensure that we do not lose sight of the future.

As a special report by the *Financial Times* on the future of universities concluded: ‘The world is in the business of finding solutions to multi-faceted problems and yet universities are still in the business of finding applications for curiosity-driven research ... The threat is not recognizing this and becoming less and less relevant as time goes on’ (*Financial Times* 2014, p.9). Entrepreneurial scholarship can thus be an energizing force for the university.

7. Conclusion

What makes entrepreneurship distinct is that it retains hope for a different, better future. This hope is expressed in the multitude of ongoing efforts to change the world. Entrepreneurs open things up when there is closure; they use imagination when there is soothing certainty. By creating new means, disclosing new values and communicating new meaning, they create new ways of being.

If a scholar is dedicated to knowledge, and knowledge is about remaining ‘true’ to its object, then entrepreneurial scholarship is not about capturing the flame of entrepreneurship but about freeing it, unleashing it, keeping it alive. The flame is fed by the ‘oxygen’ of the future, a sense and vision of how things could be better. This meaning of being a scholar is captured well by the slogan of the iconic ‘generation’ ads of Swiss watchmaker Patek Philippe: ‘You never actually own a Patek Philippe. You merely look after it for the next generation.’ As entrepreneurship scholars, we look after entrepreneurship, enlarging its spirit and making it stronger.

References

- Argyris, C. and D.A. Schon (1978), *Organizational learning*, Reading: Addison-Wesley.
- Argyris, C., R. Putnam and D.M. Smith (1985), *Action science*, San Francisco: Jossey-Bass.
- Aristotle (1999), *Nicomachean ethics*, trans. W.D. Ross, Kitchener: Batoche Books.
- Bateson, G. (1972), *Steps to an ecology of mind*, New York: Ballantine Books.
- Brandom, R.B. (2000), *Articulating reasons: An introduction to inferentialism* [Kindle version], Cambridge, MA: Harvard University Press.
- Brumbaugh, R.S. (1966), 'Applied metaphysics: Truth and passing time', *Review of Metaphysics*, **19** (4), 647–66.
- Davidson, D. (2001), *Subjective, intersubjective, objective*, Oxford: Oxford University Press.
- Dewey, J. (1960), *The quest for certainty*, New York: Capricorn Books.
- Dimov, D. (2016), 'Toward a design science of entrepreneurship', in A.C. Corbett and J.A. Katz (eds), *Models of Start-up Thinking and Action: Theoretical, Empirical, and Pedagogical Approaches, Advances in Entrepreneurship, Firm Emergence and Growth*, Bingley: Emerald Group Publishing, Volume 18, pp.1–31.
- Dreyfus, H.L. (1991), *Being-in-the-world: A commentary on Heidegger's Being and Time*, Cambridge: The MIT Press.
- Dreyfus, H.L. (2014), *Skillful coping: Essays on the phenomenology of everyday perception and action*, Oxford: Oxford University Press.
- Engeström, Y. (2015), *Learning by expanding* (2nd edition), New York: Cambridge University Press.
- Financial Times (2014), *The future of the university*, 7 October.
- Goodman, N. (1978), *Ways of worldmaking*, Indiana: Hackett Publishing Company.
- Heath, J. (2015), 'Methodological individualism', *Stanford Encyclopaedia of Philosophy*, Spring.

- Henrich, J. (2016), *The secret of our success*, Princeton, NJ: Princeton University Press.
- Henriques, G.R. (2008), 'The problem of psychology and the integration of human knowledge', *Theory & Psychology*, **18** (6), 731–55.
- Hofstadter, D.R. (2007), *I am a strange loop*, New York: Basic Books.
- Hofstadter, D. and E. Sander (2013), *Surfaces and essences: Analogy as the fuel and fire of thinking*, New York: Basic Books.
- Kolb, D.A. (1984), *Experiential learning: Experience as the source of learning and development*, Englewood Cliffs: Prentice Hall.
- Korsgaard, C.M. (1996), *Creating the kingdom of ends*, Cambridge: Cambridge University Press.
- Korzybski, A. (1933), *Science and sanity: An introduction to non-Aristotelian systems and general semantics* (5th edition), New York: Institute of General Semantics.
- March, S.T. and G.F. Smith (1995), 'Design and natural science research on information technology', *Decision Support Systems*, **15** (4), 251–66.
- McGrath, J.E. (1982), 'Dilemmatics: The study of research choices and dilemmas', in J.E. McGrath, J. Martin and R.A. Kulka (eds), *Judgement Calls in Research*, Beverly Hills: Sage Publications, pp.69–103.
- McMullen, J.S. and D. Dimov (2013), 'Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process', *Journal of Management Studies*, **50** (8), 1481–1512.
- Niiniluoto, I. (1983), 'The aim and structure of applied research', *Erkenntnis*, **38** (1), 1–21.
- Piaget, J. (1950), *The psychology of intelligence*, London: Routledge & Kegan Paul (2nd edition 2001 by Routledge).
- Quine, W.V.O. (1960/2013), *Word and object* [Kindle edition], Cambridge, MA: MIT Press.
- Ragin, C.C. (1987), *The comparative method: Moving beyond qualitative and quantitative strategies*, Berkeley: University of California Press.
- Reckwitz, A. (2002), 'Toward a theory of social practices: A development in culturalist theorizing', *European Journal of Social Theory*, **5** (2), 243–63.
- Romme, A.G.L. (2003), 'Making a difference: Organization as design', *Organization Science*, **14** (5), 558–73.
- Rorty, R. (1979), *Philosophy and the mirror of nature*, Princeton: Princeton University Press.
- Rorty, R. (1991), *Objectivity, relativism, and truth*, Cambridge: Cambridge University Press.

- Schatzki, T.R. (1996), *Social practices: A Wittgensteinian approach to human activity and the social*, Cambridge: Cambridge University Press.
- Schatzki, T.R. (2002), *The site of the social: A philosophical account of the constitution of social life and change*, University Park: Penn State Press.
- Schon, D.A. (1983), *The reflective practitioner*, New York: Basic Books.
- Schon, D.A. (1987), *Educating the reflective practitioner*, San Francisco: Jossey-Bass.
- Searle, J. (1994), *The rediscovery of the mind*, Cambridge: MIT Press.
- Sellars, W. (1963), *Science, perception and reality*, London: Routledge & Kegan Paul.
- Simon, H.A. (1996), *The sciences of the artificial* (3rd edition), Cambridge: MIT Press.
- Spinoza, C., F. Flores and H.L. Dreyfus (1997), *Disclosing new worlds: Entrepreneurship, democratic action, and the cultivation of solidarity*, Cambridge: MIT Press.
- Toulmin, S.E. (2003), *The uses of argument* (Updated edition), Cambridge: Cambridge University Press.
- Venkataraman, S. (1997), 'The distinctive domain of entrepreneurship research', in J.A. Katz (ed.), *Advances in entrepreneurship, firm emergence, and growth*, Greenwich: JAI Press, Volume 3, pp.119–38.
- Vygotsky, L.S. (1978), *Mind in society*, Cambridge: Harvard University Press.
- Weber, M. (1922), 'The nature of social action', reprinted in W.G. Runciman (ed.) (1991), *Weber: Selections in Translation*, Cambridge: Cambridge University Press.

Index

- academic disciplines 30–33
applied research 51
Aristotle 4, 47, 54
artificial phenomena 50
- Bateson, G. 10
behavioural control 11
biological naturalism 21
Brandom, R.B. 49
- case-oriented approach 36
categorization 12
ceteris paribus qualifier 64, 75
clinical scholarship 69–72, 74
Cogito ergo sum 21
common language 8
complexity, dimensions 7
complex task 55–8
concepts 11
 behaviour mediators 11–15
conceptual knowledge 3
 fundamentals of 5–8
consciousness 22
constructs 53–4
contingency 50
craft scholarship 68–9, 74, 76
- Davidson, Donald 6
denotation 9, 10
Descartes 21
descriptive science 50–55, 62
design science 50–55, 62
 utility of 63
Dewey, J. 21, 27, 49
- disclosive space 34, 35
Dreyfus, H.L. 33, 34
- economists 32
elementary particles movement
 22
Engeström, Y. 57
entrepreneurial aspiration 55, 58
entrepreneurs 19, 21, 23, 24, 26,
 27, 34, 35, 38, 39, 77
 complex task 55–8
 and scholar 41–58
 scholarly loyalty 37–40
 see also scholars
entrepreneurship 42, 43, 52, 59
 as academic subject 16–29
 domain *versus*
 phenomenon 19–24
 economic transactions 19
 elusive boundaries 17–19
 management 19
 self-reference and 25–6
episteme 4, 54
experiential learning theory 14
- Feynman, Richard 8, 18, 33
Financial Times 79
first-person ontology 23–7, 30,
 37, 38, 49, 77
Flores, F. 34
- Galileo 13
Gillette 35
God's-eye justification 48

- Goodman, Nelson 30, 31, 47
- Heidegger 33
- Hofstadter, D.R. 13, 22
- holidaymaker 21
- holistic entrepreneurial scholar
73
- Holmes, Elisabeth 35
- 'homo economicus' agents 27
- 'homo sociologicus' agents 28
- human activity hierarchy 57
- human consciousness 3
- human subjects 3
- imagination 12
- instantiations 54
- integrative scholarship 66–8,
74, 76
- intersubjective knowledge 6
- Jobs, Steve 35
- knowledge 1, 5, 41, 46, 47, 80
boundaries, drawing 36–7
map and territory 8–11
nuances in 2–5
and reality 30–40
thought models and
academic disciplines
30–33
- Korsgaard, C.M. 38
- Korzybski, A. 9, 11
- Lewin 76
- March, S.T. 52
- mental phenomena 21
- mental states 21
- methodological individualism
27
- methods, descriptive science 54
- mind–body dualism 21
- models, relationships 54
- moon, concepts 13
- Musk, Elon 16
- natural phenomena 50
- neural system 22
- Niiniluoto, I. 51, 52
- objective knowledge 6
- objectivity 45–50, 60
- ontological reduction 22, 23, 25
- ontology 17, 18, 20, 41
of mental phenomena 23
- Philippe, Patek 80
- phronesis* 4, 47, 55, 57
- Piaget, J. 14
- planet, concepts 13
- practical knowledge 3, 4
- practical reasoning 38, 39
- psychologists 32
- Quine, W.V.O. 8
- Ragin, C.C. 36
- reality 47
and knowledge 30–40
thought models and
academic disciplines
30–33
- Reckwitz, A. 27
- reference process 9, 10
- research process 2, 37
- Rorty, R. 45
- Sander, E. 13
- Schatzki, T.R. 28
- scholarly enquiry
clinical scholarship 69–72
craft scholarship 68–9
framework for 59–72
framework overview 60–64

- integrative scholarship 66–8
- theoretical scholarship 64–6
- scholarly knowledge 5
- scholarly loyalty 37–40
- scholars
 - activity 1–2
 - complex task 55–8
 - descriptive *versus* design science 50–55
 - and entrepreneur 41–58
 - entrepreneurship 32
 - objectivity *versus* solidarity 45–50
 - precision *versus* scope 41–5
- scholarship 2, 7, 62, 63, 78
 - of entrepreneurship 29
 - forces, calibrating 73–5
 - knowledge from 5, 7
 - map and territory 8–11
 - ‘object’ of 7
 - roles 1–2
 - styles of 61, 62
- Schon, D.A. 64, 71
- Searle, J. 20, 21, 23
- self-reference 25–6, 40
- Sellars, W. 12
- service 2
- shared knowledge 28
- Simon, H.A. 50
- Smith, G.F. 52
- social entrepreneurship 9
- sociologists 32
- solidarity 45–50, 60
- Spinoza, C. 34
- subjective knowledge 6
- symbolic interaction 28
- teaching 2
- techné* 4, 47, 54–6
- ‘teleoaffective’ structures 28
- Tesla 16
- theoretical knowledge 4
- theoretical scholarship 64–6, 74, 75
- thinking, activity 13–14
- thinking, cycle of 14
- thought models 30–33
 - versus* holistic case 43
- variable-oriented approach 36
- variables 37
- Vygotsky, L.S. 11
- Weber, M. 27
- worldmaking process 30, 33