

Conventions as Shared Cognitive Infrastructures

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Conventions are ubiquitous in human life. Conventions are certain regularities in human actions and interactions, such as commonly observed practices, customs, and traditions. Conventions also reflect the less observable, namely, the underlying beliefs and implicit theories about the world that people come to share. They are often taken as conventional wisdom or common sense.

Conventions are emergent solutions to knowledge problems in social life. They are the shared cognitive infrastructure, on which all human actions and interactions are built, including economic activities and market transactions. Conventions belong to knowledge commons that people share and contribute to maintain (Hess and Ostrom 2007).¹ The stability of conventions provides a degree of stability of expectations into the future and about others with whom we regularly interact. However, conventions are not immutable. Conventions change over time through cumulative processes of experimentation and learning and their changes represent significant alterations in human affairs.

Given the centrality of conventions in human affairs, any study of human actions and interactions should aim to account for how conventions emerge and how they are maintained and get changed and transformed. Conventions, however, fall outside the purview of the dominant tradition in economics. The reason is that the dominant tradition in economics focuses on the rationality of choices in the context of given ends and means, overlooking the ubiquitous knowledge problems that underlie choices. It is oblivious of the prerequisite knowledge basis of social interaction and cooperation. In acknowledging neither the possibility of learning over time, nor differential learning processes across individuals, nor the possibility of changes conventions (or in the shared cognitive infrastructure in society), the dominant tradition

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¹ Knowledge commons is equivalent to Popper’s World 3 (Popper 1972).

focuses on analyzing a changeless world (Arrow 1974). In the static framework of economics, therefore, the source of a change must be exogenous, and unexplained. Though the model of rational choice (in a timeless world) has proven to be a powerful tool for some purposes, it has the shortcoming of ignoring the crucial knowledge problem as the basis of social cooperation and the source of change.

Economists in the Austrian tradition are keenly aware of the subjective nature of knowledge and have addressed in various ways the nature of the knowledge problem in human actions and interactions (Hayek 1945). Even so, Ludwig von Mises (1957) issues one of the strongest warnings for economists against delving into the givens in economics qua economist by drawing a bright line between praxeology (the science of human action) and thymology (moral psychology).² According to Mises, economics, the most developed of praxeology, is the exploration of the logic of choice. Mises sweeps all the “givens” (not only tastes and valuations, but also ways in which people understand the world, their beliefs and convictions, etc.) under the carpet of thymology and assigns them to historians.

The analysis of rational choice by taking ends and means as given has led economists to treat (or assume) “means” as *commonly known*. The implicit step has enabled economists to treat means (such as capital) in terms of “more or less,” and in terms of aggregate quantity. In doing so, economists overlook the subjective dimension of “means,” the possibility of different actors perceiving different possibilities, even as they face what appears outwardly the same.³ It is as if economists never heard of the saying, “one man’s trash is another man’s treasure.” If all knowledge is assumed to be known to all (and shared), there is no room for genuine learning, discovery, or entrepreneurship. Also, the practice of taking goals (preference) as given has led economists to sweep under the carpet, not only tastes, but also crucial elements in social life, namely, beliefs about accepted rules of conduct. The rational choice model, thus, limits economics to timeless and changeless world.

Surely, attempts have been made to overcome the limitations of economics by foraying into what Mises would regard as the thymological realm – economic imperialism, economics of information, economic psychology, behavioral economics, institutional economics (old and new), etc. These have had varying impacts on economics. The degree to which these attempts have been incorporated into the mainstream economics appears to be inversely related to the degree to which they depart from the core premises of mainstream economics. For example, behavioral economics that started out disputing the empirical validity of rationality assumptions of traditional economics has developed a vast literature on how to nudge people into behaving more rationally, as judged by economists and policy makers.

² Compared to the majority of modern economists, Mises is less formally committed to constrained maximization as the core theory. He is much more aware of knowledge problems in social life. Yet, he insists on the purity of economic theory, as distinct from psychology, or history.

³ Austrian economists with a subjectivist approach have largely managed to escape this problem.

One of the most notable of the attempts to address the shortcomings of traditional economics is on entrepreneurship. Frank Knight viewed the entrepreneur as earning economic profit by facing uncertainty (as distinct from calculated risk). Knight's entrepreneur, however, is supra-rational and a breed apart from the economic man who populates the competitive market in equilibrium. In trying to account for capitalist economic development, Joseph Schumpeter tried to graft innovative entrepreneurship onto the static equilibrium of the traditional economics as the agent of change. His entrepreneur is also a breed apart from the economic man who populates the stationary state. Israel Kirzner introduced the concept of entrepreneurship as the arbitrageur by abandoning the concept of equilibrium so that profit opportunities are ever present (or never exhausted or ever newly created for those who are able to notice them). His entrepreneur somehow notices profit opportunities from price gaps that others simply fail to notice. These contributions remain on the fringes of economics, however.⁴

It should be noted that Kirzner adheres to Mises' stricture against delving into thymology. To the question of how the entrepreneur can discover profitable opportunities that others overlook, he replies that it happens somehow, or the entrepreneur simply happens to be more alert to the sweet scent of profit. He declared, along with Mises, that the question of how (or why) some people discover a \$100 bill on the sidewalk while others are unaware of their existence belongs not to economics but to psychology, or thymology.

The aim of this chapter is to dare to cross the bright line drawn by Mises and Kirzner and explore conventions as shared cognitive infrastructure on which much of human actions and interactions, including production and exchanges, rest.

Conventions are wide ranging, from languages to shared beliefs about the world (including human beings who populate it), and to rules of acceptable conduct in various situations. Conventions reflect our implicit understanding of the world and are antecedent to rational choice and human action. Human affairs are through and through conventional. Different conventions produce different social outcomes, for good or ill. To a student of society, the questions of how different conventions arise and how they may persist or change, and under what conditions, are worthy of a serious inquiry. I believe that a systematic inquiry into conventions is possible and would yield valuable insights into social tendencies. In addressing the heightened interest in entrepreneurship and innovation, a good understanding of convention as cognitive infrastructure is essential insofar as entrepreneurship and innovation consist of the process of introducing new conventions.

⁴ William Baumol's conception of entrepreneurship as the agent of economic productivity improvement obeys the law of supply. He seems to view entrepreneurship as a special kind of human capital that can be employed either productively or destructively (in rent seeking or plunder), depending on the relative expected gains.

What is attempted in this chapter is not the “economics of conventions,” explaining conventions as an outcome of rational choice. Conventions, as implicit understanding of the world, are antecedent to the exercise in the logic of choice. What this chapter attempts is an exploration of conventions as knowledge commons; conventions will be presented as the necessary consequence of the human predicament of decision making in the face of uncertainty given the human ability to imagine, learn, and communicate.

The exploration of the nature of convention attempted here turns upside down the theory of the dominant tradition in economics, focusing on the logic of choice, taking as given the ends and means. Instead, we take the logic of choice as given (as nonproblematic) and focus on how human beings cope with uncertainty (with the knowledge problem). With the aim of providing a structure to our understanding of conventions, I now turn to the nature of the knowledge problem.

5.1 THE LOGIC OF CHOICE VS. DECISION MAKING IN THE FACE OF UNCERTAINTY

Economics is often touted as the science of choice. What is meant by this is that the core economic theory is based on the idea that the rational individual would choose the option from which he expects the greatest net value, given ends and means. The idea can be illustrated in the following two cases: (1) an individual in isolation and (2) exchange between two individuals.

(1) Suppose that Mr. A is given a choice between two options, a \$10 bill or a \$100 bill, no strings attached. Mr. A should choose the \$100. (2) Now suppose that Mr. B has one X and Mrs. C has one Y. If their preferences are such that Mr. B values one Y more highly than one X and Mrs. C values one X more highly than one Y. The two then should agree to exchange their goods for mutual benefit. In either case, the choice of the rational actor, or actors, is entirely reasonable.

However, what usually escapes unnoticed in the theoretical setup of the rational choice model is the presumption that the choice situation is clearly presented to the subject (the imagined decision-maker) by the experimenter (the economist) and the subject understands and agrees to the experiment. The presumption sweeps under the carpet, as it were, all things concerning the understanding of the situation, antecedent to the choice.

But how many of our real-life situations are so clearly defined, with a neat list of available alternatives and the conspicuous best choice among them? In the real-life situation, for example, how did Mr. A come to know whether there are only two alternatives of specific value, or whether there are indeed no strings attached to the alternatives, or to the choice situation itself? When and how does he determine that he is faced with a choice situation in the first place?

In a similar vein, how did Mr. B and Mrs. C come to know that there is only one other potential trading partner, or that they each value what the other has more than

one's own, or that the exchange can be made safely, or that the expected gain from the exchange is worth the trouble when all things are considered, etc.? The scope and reliability of knowledge necessary, but presumed, in real life is formidable. To portray the logic of choice as the essence of real-life decision making is the proverbial Hamlet without the Prince.

One may wonder, however, that, if the knowledge problem and the problem of understanding a given situation in decision making so formidable, how is it that we are not paralyzed by uncertainty in our daily life? For, in most circumstances, we go on with our lives effortlessly as fish swim in water. I claim that it is because most of life situations we encounter are rendered nonproblematic by a variety of conventions (through an implicit understanding) we acquire in the course of living.

Human beings are not as tightly hardwired as lower animals. Therefore, human beings face, in most situations, immensely open possibilities of action. They have the freedom of action. The other side of the same coin, however, is facing uncertainty. Out of so many possible ways of acting, how should one act? What is the right way? In order to take a definite action in a particular situation, human beings must resolve uncertainty, one way or another.

If human beings are insufficiently hardwired and cursed with attendant uncertainty, they are blessed with endowments needed to cope with uncertainty, namely, the capacity to imagine, learn from experience, and make mental tools. The capacity enables each individual human being to acquire, in the course of growing up and living a life, a whole set of mental tools to cope with uncertainty in recurrent situations he or she faces. The mental tools we fashion reflect our conception of the world around us, in the sense that they reflect our implicit understanding of the world and enable us to act.

The mental tools we acquire and use define who we are; they become our *second nature*. Conventions are but mental tools *certified*, as it were, by others in the group to which one belongs through repeated interactions. What makes possible cooperative interactions among people in a group without constant surprises is the shared conventions. As such, conventions belong in knowledge commons shared among relevant people. Acting conventionally, therefore, is to act according to our second nature. It is no wonder that we are often unaware of what we do. In most familiar life situations we encounter, we are on an autopilot. Ordinary speech in everyday life is a good example.

Incidentally, this is the very reason why we find the economic model of rational choice so appealing. Taking for granted the conventions that have become our second nature, we often judge whatever we do most reasonable.⁵ Of course, whatever we do is most reasonable, if the way we understand the given situation is

⁵ I believe that it is on a similar ground that David Hume in his *Treatise* (1739–1740) said: “reason is, and ought only to be the slave of the passions.” Hayek (1973) also states that what is construed as reasonable rests on the evolved attitudes, values, and institutions.

accepted as given, or if we followed conventions. To believe that rational choice (the logic of choice) is the essential feature of decision making is to believe that the tail wags the dog.

But if we are interested in better understanding the nature of conventions, we should try to see how conventions (as means of coping with the knowledge problem and the problem of understanding different situations, or as resource in knowledge commons, as it were) emerge, are sustained, and evolve over time. To that end, let us turn to explore the ways in which human beings use their capacity to imagine, learn (from experience and from interactions with others), and fashion mental tools to cope with uncertainty.

5.2 COPING WITH UNCERTAINTY

To explore the nature of conventions, we should consider the situation where conventions are absent, the situation in which an individual is facing a completely unfamiliar situation, which he cannot readily understand to ground his decision and act (Choi 1993). In other words, the starting point of analyzing conventions is decision making in the face of uncertainty.

Uncertainty is a state of mind in which one cannot identify appropriate conventions to follow. To identify appropriate conventions to follow is to have an implicit understanding of the situation one is faced with. Since birth, we face a series of situations in which we are uncertain as to how to act. In each of these instances, we are either taught by others how to act, or imitate what seemed to be viable, or act on a hunch. We try a new set of mental tools. Whether taught or guessed, our actions reflect, however tentatively, an implicit understanding of the situations.

We become more confident in the type of actions (and the implicit understanding that undergirds the actions) that brought good outcomes. Over time, the types of mental tools that “worked” for us in a wide variety of situations become our routines and habits. Reflecting each of our individually unique experiences, the set of routines and habits we come to acquire over time is likely to be individually unique. The implicit understanding of the world that undergirds our routines and habits that define who we are is likely to be individually unique, as well.

Life becomes easier to the extent we acquire a repertoire of mental tools (and rules of action) for all occasions we have faced and are likely to encounter in the future. Moreover, to the extent that we live in society of others, many of the rules of action that we acquire will necessarily have been so adapted to produce the appearance of being shared with people with whom we frequently interact. Such apparently shared rules of action are conventions. We become quite conventional by the time we reach a certain age. As we go about our lives in familiar milieus, we are not at all uncertain about how to decide. Indeed, we choose rationally, assuming conventions we follow.

Still, we sometimes run into unfamiliar situations. It could be that we have never been in the situation. Or it could be that our conventional actions fail to produce expected results, leading us to wonder whether our implicit understanding of the situation is adequate. In either case, we would be uncertain about the nature of the situation we are facing and how to act. In an uncertain situation we have an epistemic problem. There will be a great urge (we become anxious) to resolve this uncertainty, inasmuch as our lives are sustained by actions.

In a completely unfamiliar situation, the individual will have to exercise his or her imagination and come up with a hunch (a conjecture and an implicit understanding) about the nature of the situation he or she is faced with. Only with an idea of what the situation is can he or she decide what the appropriate course of action would be. Uncertainty is overcome only when individuals manage to cope with the epistemic problem with a hunch and decide what to do (or when they can make a rational choice).

A hunch (or a conjecture) is a tentative guess at the situation, likely to be based on its suspected resemblance to other situations with which the individual is already familiar (i.e., the situations he or she understands and in which, therefore, he or she knows how to act). The individual will then try out his or her hunch by acting on it. The manner in which the individual comes up with a hunch and trying it out is analogous to the way scientists come up with a hypothesis and subjecting it to tests.⁶ Both try to gain an understanding of the hitherto unknown.

Economists versed in model building may be tempted to build a model of decision making in the face of uncertainty. But there is no way to reliably resolve the epistemic problem of uncertainty. If it were possible, there would be no more uncertainty. Let me explain. Uncertainty is resolved with a hunch about the nature of a novel situation we are faced with. That uncertainty is resolved, at least provisionally, with a hunch is of logical necessity. But a hunch with which we resolve uncertainty defies a general description (or a rule). It is because the inferential process by which we produce a hunch is a deeply subjective process of imagination, reasoning, and even a leap of faith, at a specific moment in time. The difficulty of coming up with a general rule for hunch is precisely the same in nature as the difficulty of a generally valid rule for science.⁷

In fact, the difficulty of a generally valid rule for hunch is even greater because our approach to uncertainty in life situations is mostly informal and implicit, with

⁶ Loasby (1999) refers to the American psychologist George Kelly as seeing certain parallel between the everyman and the scientist.

⁷ See Hume (1902) and Popper (1934). The manner in which an individual arrives at an understanding of a given situation is not different in kind from how the scientist comes to a hypothesis about some phenomena. Just as there is no proven method of coming up with a scientific hypothesis, there is no proven method of coming to an understanding in daily doings. This fact hasn't prevented some clever people from offering a general rule of decision making. The American quip, "If you are so smart, why ain't you rich?", is apt. See Choi (1999).

the foremost concern for viability. Scientists at least try to state their hypotheses clearly, and to provide their plausibility, by initial test results or other evidences. Students of the history of science may even learn something about how scientists get their hypotheses from their private journals. In contrast, people's hunches tend to be momentary and nearly always unspoken.

Herein lies the difficulty of studying decision making in the face of uncertainty. Uncertainty is resolved with a hunch. But the inferential process leading to it defies a rule.⁸ Offering a rule of how to come up with a reliable hunch (or a method of how to deal reliably with uncertainty) is unconvincing. For any rule offered one could easily think of exceptions. In the absence of a generally valid rule of hunch, the process of generating a hunch seems to be chaotic. This, I believe, is the reason why many who might have seriously considered the question of decision making in the face of uncertainty did not pursue it. What is to be done?

One possible way to gain some understanding into the process of resolving uncertainty is not by trying to account for the content of hunches (of which there may be infinite variations), or by trying to formulate the general rule of hunch, but by exploring the patterns of behavior that people would exhibit in the process of hunting for a hunch, or in the process of learning how to cope with an unfamiliar situation.

In Section 5.3 we will try to tease out the behavioral patterns of learning by analyzing the case of decision making in the face of uncertainty in different contexts. The behavioral patterns thus derived would be useful in better understanding the process of the emergence, sustenance, and changes in conventions as cognitive infrastructure for social life.

5.3 THE BEHAVIORAL PATTERNS OF LEARNING PROCESS

To derive behavioral implications of decision making in the face of uncertainty let's conduct a series of thought experiments in which actors face uncertainty. The thought experiments are purely a *logical exploration* of the implications of the facts of decision making in the face of uncertainty.

Life is sustained by actions. Uncertainty is a state of mind in which one is unsure of how to act, or unsure of how to classify the given situation and identify appropriate rules of conduct. When faced with an uncertain situation, therefore, there is a great urgency to resolve it by coming up with a hunch (and an implicit understanding of the situation), without which we cannot act (Nisbett and Ross 1980). People

⁸ Cognitive psychologists have identified several heuristic rules that human beings use, such as representativeness, anchoring, availability, affect, etc. The trouble with these heuristics is that they could lead to fallacious inferences if used inappropriately. The pertinent question is: what is the rule to decide when to use which heuristic?

will be placed in different settings – in isolation, and in a group with or without interaction and communication – to derive the behavioral patterns of learning.

Before we proceed, let's first consider the logical implications of the necessity of a hunch with which people resolve uncertainty.

1. A hunch, whatever it is, is not predetermined; people cannot predict what hunch they come up with; otherwise, they could not have been uncertain.
2. The hunch represents a selective understanding of the situation, as it is one of many possibilities.
3. Selected among many possible, however implicitly, people must invest a degree of confidence in, and commitment to, the goodness of the hunch, as their life depends on it.
4. Trying a hunch, nevertheless, is a trial-and-error process. The goodness of a hunch is not guaranteed. If actions based on a hunch lead to a frustrating experience, the actor will classify it as what not to do in the future. If a hunch leads to acceptable outcomes, it will be classified as what to do in the future in a similar situation.
5. Repeated good experience with a hunch would lead the actor to become more confident about the implicit understanding implied in the hunch. In due course, practices based on successful hunches become a part of our repertoire of mental tools, (or routines and habits).
6. Established routines and habits will not be abandoned unless people subsequently experience repeated frustrations with them and can come up with a hunch for a better way. With these, let's now turn to actors faced with uncertainty in different decision contexts.

5.3.1 *A Person Facing Uncertainty in Isolation*

The setting of a person in isolation is only for the purpose of mental experimentation. Of course, human beings are social animals; I believe that even Robinson Crusoe shipwrecked on an uninhabited island was not alone; in his mind, he still had the company of other men with whom he had associated, including his father from whom he fled.⁹ The hypothetical person in isolation is thus not a mental blank state; in addition to innate inclinations, he would have a whole set of mental tools (routines and conventions) he has acquired up to the point when he is faced with a novel situation in isolation. The setting implies the following:

⁹ Robinson Crusoe carried with him all the conventions he had acquired as an Englishman of certain social station of his time and location, with additional experience of his adventures after he ran away from his father.

1. In a truly novel situation, what hunch an actor will come up with (and how he or she will behave as a result) is unpredictable.
2. The hunch will be based on the extant understanding of the world (and the repertoire of mental tools in possession) and the recognition of a resemblance to situations the actor experienced before. History matters.¹⁰
3. The hunch will be hypothetical and experimental.
4. The hunch is not aimed for universal validity (as a scientific hypothesis might be), but to meet the urgent demand for the resolution of uncertainty at a moment in time. The outcome could be globally optimal, only by a fluke.

5.3.2 A Person Facing Uncertainty in a Group without Interaction

Let's suppose that our imagined actor is faced with uncertainty but he or she is no longer alone; he or she can observe a bunch of strangers in a similar situation, (without the possibility of being seen by them, or interacting with them.) If so, there is a possibility of conducting a *vicarious* experiment to come up with a hunch, by using others as the guinea pig, as it were. The group situation should be further divided into homogeneous and heterogeneous, as the nature of vicarious experimentation will differ.

If the group is homogeneous (i.e., if the strangers appear to be very similar to him or her), the actor can more easily learn, by just watching them, what to do and what not to do.

5. The actor could *imitate* examples of success and *shun* examples of failure.
6. If a group of similar individuals faces uncertainty, they, looking to get a hint from one another, may end up imitating the first seemingly successful action, thus create a herding behavior such as a fad or a stampede.
7. A group of similar individuals will persist in the herding behavior, unless shaken by a shock (a disaster, for example).

If some of the strangers whom the actor can observe are dissimilar from him or her, the vicarious experiment must be modified to hope for a better hint. The vicarious experimentation must be controlled (or adjusted) for differences in attributes. For the actor is more likely to get a good hint by imitating the successful action of the similar, rather than that of the dissimilar.

¹⁰ A well-known quote from Confucius is: "One comes to know the new from the old."

8. It follows that, in a heterogeneous group, the actor will make relative comparisons to decide who should be classified as the comparable group, or the reference group, and who should not be.
9. The actor should look for a hint from the actions of individuals in the reference group, expecting similar results from the actions of similar individuals.

5.3.3 *A Person Facing Uncertainty in a Group with Interaction*

This is a social setting where the actor expects interactions with strangers. The actor is no longer playing the game against nature; he or she is transacting with other human beings. Two issues arise in the social setting: how to act in the company of other human beings who may react to one's own actions and how to react to others' actions, to which others may in turn react. He or she is aware (if not, will be made aware) that the goodness of a hint on what to do when faced with uncertainty in a social setting depends on how others respond or react to his or her actions.

In a social setting, the actor should conduct mental experiments of imagining himself or herself in others' shoes to resolve uncertainty concerning how to act toward others and how to react to others' actions. *Empathy* is the human capacity to do so.¹¹

10. The actor would seek those actions that he or she believes would meet the approval of others (and seek to avoid their disapproval).
11. Since it is not usually possible to ask others whether they would approve one's action *ex ante*, the everyman will seek the approval of the imagined others, the imagined reference group (and avoid their disapproval).¹² The habitual regulation of one's actions with reference to the imagined reference group is often described as following one's conscience.¹³
12. To avoid reacting inappropriately toward others, the actor will guide his or her response to others' actions in consultation with the imagined reference group.

¹¹ Adam Smith provided a valuable insight into the process of resolving uncertainty in a social setting in *The Theory of Moral Sentiments* (1759/1984). He used the term sympathy to mean, in modern usage, empathy. If a person cannot empathize, he or she would be apathetic toward others. Such an asocial individual may find himself or herself in isolation, or in a group without interaction. Confucius would agree as he regarded empathy (恕) as the basis of virtue.

¹² Adam Smith (and David Hume) believed that man naturally seeks the approval of others and avoids their disapproval by acquiring an impartial spectator in the breast. Such natural tendency to develop a conscience may be an outcome of learning or becoming aware that the viability of our actions largely depends on the approval of others.

¹³ Adam Smith called the imagined reference group, "a tribunal within the breast, which is the supreme arbiter of all our actions" (1759/1984: 129).

13. Social interactions have the effect of restraining the actor's impulses and make social cooperation possible.¹⁴

A series of thought experiments, in which the actor faces uncertainty in different settings, has yielded several logical implications of the process of searching for an actionable hunch: unpredictability, importance of precedents, path dependence, local and temporal character of our understanding, relative comparisons, reference groups, empathy, approval seeking, and imagined reference group. These are necessary behavioral patterns of people's learning process.

Life is a series of learning processes, in which we learn how to handle novel situations. Residues of past learning are our individual habits and routines with which we manage our lives. Our habits and routines reflect and engender implicit understanding of the world that gives meaning to life as we experience it. We acquire a unique understanding of the world as the learning processes we have gone through as individuals are unique. But the uniqueness of our understanding of the world and habits and routines that reflect it are tempered, to an extent, through social interactions.

Let's now turn to the question of how the conventional cognitive infrastructure for social interactions emerges and what role it plays in human interactions.

5.4 CONVENTIONS AS COGNITIVE INFRASTRUCTURE

Human beings are social animals. People must live in the company of other human beings, frequently interacting with them in diverse situations. Our behavior in diverse situations depends on our implicit understanding of these situations (which include the operating principles of others, if there are such principles). How well we fare in life depends a great deal on how the relevant others act and react toward us in ways not inconsistent with our understanding of the situation. The same would be true for other individuals in society, as well. Thus, it is necessary that most of individuals in society come, however tentatively and inadvertently, to a commensurable understanding in the diverse situations in which they interact regularly. Otherwise, frustrating experiences will prompt individuals to modify their outlook and conducts.

Over time, frequently interacting individuals in society must arrive at an understanding of situations that they face regularly so that each of their actions would not be surprising or upsetting to others but be agreeable and result in satisfactory

¹⁴ The set of mental tools that a person acquires up to a moment in time defines who they are in terms of their understanding of the world and their character. Subsequently, they may acquire additional mental tools, or they may modify or replace existing mental tools, reflecting new experience and learning. In general, however, as a person gets older, their ability or inclination to modify or replace their accustomed mental tools diminishes considerably.

outcomes. In other words, individuals imaginatively improvise and eventually adopt mental tools to produce a set of workable rules of conduct, a set of conventions.

Once enough individuals in a group behave conventionally, or come to behave based on shared conventions, those individuals who fail to adopt conventions will face disappointing results, command little respect from others, and fare ill in life. Therefore, all ongoing groups and societies will develop their own set of conventions over time. It is this requirement to resolve uncertainty in social settings that produces conventions over time. The emergence of conventions makes life easier for everyone.

People may simultaneously belong to multiple groups in a society, such as a family, a neighborhood, a workplace, a church, a sports club, a chess club, a reading group, a labor union, a political party, etc. Diverse groups may share overlapping conventions to the extent that they all belong to the same overarching larger group or society – the Ostromian Institutional Analysis and Development (IAD) framework talks about different “action arenas” – but each of the groups may also have its own unique set of conventions, reflecting its history and membership. Conventions that members of a group come to respect and follow are the cognitive infrastructure of the group, in the sense that the problem of decision making in the face of uncertainty (the problem of understanding a given situation) is collectively resolved by their adoption.

Let me hasten to add that conventions as a “collective resolution” of epistemic problems refer only to the observed phenomena of certain patterns of behavior, not necessarily to the process by which conventions are produced. Most of the observed conventions in fact have not been produced at a constitutional convention; instead, they *emerge* over time as individuals in their own ways tried to come to grips with confounding situations they were faced with through guess, imitation, empathy, and experimentation. The process through which conventions emerge is the process of trial and error, at both the individual and the group levels. Once conventions are well established (followed by the majority) in a group the young or the newcomer will have to learn the extant conventions. The young and the newcomers who face uncertainty concerning how to act, and sense social pressure to conform, have a strong inclination to adopt the established conventions.

However, even when members of a group appear to seamlessly conform to conventions, the individual’s implicit understanding of the situation and why he or she is conforming to the conventions may not be the same.¹⁵ In other words, diverse subjective understanding of a given situation may nevertheless produce what appears to be a shared pattern of behavior among people in society.¹⁶

¹⁵ The reason would have to do with the sequence in which different habits and routines individuals come to acquire. One possible piece of evidence is how people who seem to share conventions in total may nevertheless respond differently when a familiar situation is slightly altered and they have to act on a hunch.

¹⁶ In the face of changing circumstances, some of the underlying diversity in understanding may be expressed as unconventional behavior.

A society or a group whose members do not develop a set of workable conventions, or a shared cognitive infrastructure on which cooperative social interactions rest, will fare badly and may even become extinct over time, through attrition. When most individuals in a group come to conduct their affairs by conventions, those few who behave unconventionally will fare badly and die out, (unless they convince others to accept the unconventional as the new convention. In this case, the unconventional are innovators and entrepreneurs. Discussions on the agents of change will follow in the next section where we discuss changes in conventions.)

There is no presumption that conventions are optimal (or the best possible) in their respective situations. A set of conventions are only one of many possible modes of behavior (and an understanding) in a situation. Its relative merit is difficult to judge. For example, think about the convention of eating food with utensils: fork and knife vs. chopsticks. There is no point in arguing which is a better way of eating. Once a convention is adopted, say chopsticks, people develop certain dexterity with chopsticks and cooks will prepare food to be eaten with them. For example, a Japanese wife is not likely to place a T-bone steak (a lump of cooked meat) on the table, to be eaten with small chopsticks. Instead, she is most likely to cut meat into small pieces to be eaten with a pair of small chopsticks. But once established, a convention tends to persist until and unless replaced by another.

In the age of globalization (and inexpensive utensils), it is not uncommon to find both types of utensils are found in a typical urban household, where a family may, on some days, use chopsticks to eat an Asian noodle dish and, on other days, use fork and knife to eat a T-bone steak. A tradition-loving English family may choose to eat all sorts of food (including Asian-style soup noodles, crabs, or corn on the cob) only with fork and knife (supplemented with spoon for soups). Whatever inconvenience they may face, they can manage with enough dexterity that comes with practices. There could be different conventions for different families.

There is no guarantee that different groups will develop equally serviceable conventions. Some group's conventions may be more useful in promoting the well-being (or the survivability) of the group than those of others. A society where people commonly eat raw food may not do as well as another society where people mostly eat cooked food. In isolation, the two societies may persist in their conventions. But when the two come into contact, the latter may dominate the former in terms of numbers. Over time, the convention of cooking food may come to prevail even in the former as people in the formerly raw-food-society learn the benefits of cooking. As the saying goes, "if you cannot beat them, join them."

A historical example of one group's conventions spread through increase in its number is the growth of early church. According to Rodney Stark (1996: 95–128), the spread of early church owed much to the Christian prohibition of infanticide and abortion and a higher status accorded to women that resulted in a higher population growth rate, higher conversion rate among women, and more balanced sex ratio (relative to the pagan world). The convention of female infanticide and abortion in

the contemporary Greco-Roman world resulted in a severe sex ratio imbalance and slow population growth.¹⁷ In addition, the congregation of early church was predominantly female. The reason for this was the more balanced sex ratio among Christians relative to pagans and a higher proportion of females among pagan conversions to Christianity.¹⁸ The resultant higher female sex ratio among Christians led to higher population growth, relative to pagans. Given the vastly different sex ratios between Christians and pagans, it was natural that many Christian women ended up marrying pagan men, leading to secondary conversions of pagan husbands, contributing to the further spread of Christianity.

Conventions, applicable in different situation, can be hierarchical or nested. For example, consider the English language spoken by over a billion people – as the native-tongue, as the second language, and as a foreign language. Even among native speakers, there is a considerable variation in different countries and regions, in terms of vocabulary, idiom, cliché, turn of phrase, etc. The same is true even within one country within a region; the conventional use of English among different classes of people, depending on education, occupation, etc. may vary considerably. One may even observe considerable variations among families in the same region with a similar socioeconomic background. All sorts of human activities (such as law, science, literature) are nested on the English language. Also, different styles (conventions) of poems may come and go within the English language. And so on.

5.4.1 *Aesthetic, Coordinative, and Cooperative Interactions*

There are three types of interactions that produce conventions – aesthetic, coordinative, and cooperative.

1. The aesthetic interaction is the type of situation where it does not matter what people do except that what they do is seen and judged by others on aesthetic grounds. For example, consider hairstyle. One may think that, other than having excessively long and loose hair in a hazardous situation (such as a factory with spinning wheels), our hairstyle would not matter much. However, we are keenly concerned about how others may view us. So, we will tend to try to have a hairstyle that in our estimation would meet the approval, or even admiration, of relevant others. We may get a hint from a person whom we regard as attractive. Our choice of a hairstyle is meant to convey an impression of ourselves to others. Since different individuals may consider different people attractive, a few

¹⁷ The estimated sex ratio in the Greco-Roman world was 130–140 males per 100 females (Stark 1996: 97).

¹⁸ The estimated sex ratio among pagan converts was 2 females to 1 male. Fearing a worsening of the sex ratio in the pagan population, Emperor Valentinian ordered Pope Damasus I to stop calling at the homes of pagan women.

distinctive hairstyles may emerge as fashionable and become conventions. Once certain hairstyles are accepted as conventional, a nonconventional hairstyle may surprise or even shock people, unless done by someone regarded by many as indisputably attractive. In this manner fashion leaders introduce a new fashion (new conventions).

The processes by which fashions come and go are evolutionary and may not be easily predicted. Many ancient people (the Picts, the Maoris, the Vikings, the Ainus, etc.) tattooed their bodies and faces. Subsequently, tattooing became generally less popular, that is, the convention of no tattoo came to prevail. Tattooing remained conventional only among much smaller segments of society, such as sailors and gangsters. In the twenty-first century, however, tattooing seems to have become an acceptable convention among an increasing number of American youths, thanks to certain daring musicians and mixed martial art fighters.¹⁹

2. In situations that require coordination of activities, individuals in society may arbitrarily settle on a convention, as some kind of coordination might be better than none (Lewis 1969). For example, as vehicles became common, it made sense to decide which side of the road vehicles should be driven to allow a smoother flow of traffic. It did not matter which side of the road vehicles are driven, as long as they stay on the same side. So, the American convention is to drive on the right and the British and the Japanese (both island nations), on the left. Sharing a long border with Americans, Canadians have chosen the convention of driving on the right.

Coordinative conventions may emerge spontaneously, but when enough number of people feel that a rule is needed, someone (government, an organization, or an international treaty) may initiate the rules of the road. The International Maritime Organization, for example, published navigation rules *prescribing* that all ships (even British ships) are to pass port-side to port-side, that is, on the right.

In general, people would have little reason to disregard coordinative conventions. Once conventions (such as the rules of the road) are widely accepted, those who do not respect the conventions (and cause accidents) will be found to be at fault and become liable for damages. The emergence of the convention of private property (as fences or landmarks between neighbors) to keep peace and encourage industry is one of the most significant turns in the development of humanity. Increase in population density over time necessitated elaborations of property rights enforced collectively by the state (Hume 1902).

¹⁹ Another interesting example of changing fashions brought on by outsiders is the American corporate dress code. The days of the rigid dress codes of Chase Manhattan, IBM, or GE are gone with the rise of Apple, Google, and Facebook.

When a new situation arises for which no extant convention exists, (e.g., when flying cars become a reality), new “rules of the road” will be needed. Such rules for three-dimensional traffic may be improvised based on a combination of the existing rules of the sky (for airplanes) and the rules of the road (for cars).

Language – a prime example of knowledge commons – is another example of coordinative conventions for communication that emerged spontaneously. If an animal is called a horse, all English-speaking people would understand what is meant. Call it something else, no one would understand. It is almost impossible for a person born into a society with a language to not end up speaking that language. A language is a complex set of conventions – the vocabulary, grammar, idioms, cliché, etc. – for the evolution and maintenance of which an unaccountable number of people contributed, small and large.

The mother tongue is what one is born into. An individual may choose to acquire additional languages, if he or she wishes to communicate with people who speak different languages or learn to translate. The number of people who speak a language may change depending on the fortunes of the people who speak the language. If a language-speaking people produced prosperous societies, the language-speaking people may increase in number through the proliferation of progeny and imitation/adoption.

3. In many social transactions the outcome of one’s action depends on others’ cooperation (i.e., others doing the expected parts). An act of cooperation need not be intentional; cooperation simply means that independent actions of individuals involved manage to produce the desired outcomes for parties involved. The best-known case of unintended cooperation on a large scale is social division of labor through trade, which depends on a host of conventions, such as language, property rights, promise, contracts, etc.

In a coordinative setting, once a convention emerges, there is little reason for anyone to deviate. In a cooperative setting, as in a teamwork, this is not so. Even after members of a group formally agree to a certain way of cooperation, separate individuals may find a way to do better for themselves by breaking the agreement.²⁰ A cooperative setting is like the familiar Prisoner’s Dilemma (PD) game. Therefore, cooperative conventions that emerge in the course of repeated interactions in a PD-like setting must have the feature of responding negatively to those who do not conform to cooperative conventions. Cooperative conventions, once established, may be more enduring because of its self-policing nature (Axelrod 1984).

²⁰ A cooperative regime without an explicit agreement, resting on an implicit understanding, may be subject to opportunistic actions by some members who are willing to undertake actions not explicitly forbidden.

Regardless of the nature of interaction among individuals in society, conventions are the cognitive infrastructure of a society in the sense that they constitute collective resolutions of epistemic problems. Conventions provide a certain way of understanding frequently experienced situations; they provide a stability in the expectations of individuals in society and enable them to produce the extensive network of social interactions and cooperation, including market transactions. The entirety of prevailing conventions in a society defines its culture.

Conventions emerge through the interaction among people over time. Some conventions are explicitly adopted with the aim of a better coordination. The origin of most of conventions, however, is obscure because they are only the by-products of individuals trying in their own ways to deal with the uncertainty they face. When uncertain about how to act, the young and the newcomer look to others for a hint and they would find conventions. Conventions are reproduced daily through people's conformity. If anyone proposes a new way of doing things, a new convention, its success cannot be predicted because it would depend on others' willingness to follow.

5.5 STABILITY VS. CHANGE

The value of conventions as the cognitive infrastructure of a society lies, to a large extent, in their stability, which in turn depends on how widely the people in the group regard them as the way they should act.²¹ For any ongoing society, or any social group, it is necessary that the majority of their members upholds the prevailing conventions in relevant spheres of interaction and the shared cognitive infrastructure is governed as a knowledge commons.

Conformity to conventions may come in two ways: affirmation and expediency. Most individuals who interact overtime will come to have an understanding of the world that leads them to believe that conforming to conventions is the *right* thing to do. Most conventionalists will naturally react negatively to those who do not conform, because they do not do the "right" thing and upset their expectations.²² People often do not make the distinction between what is and what ought to be.

²¹ Some thinkers who notice the flimsy and arbitrary basis of human understanding and expectations see society (and the market) forever on the brink of chaos (Shackle 1972). I believe that they have an insufficient appreciation of the requirement of the stability of conventions, which the shared cognitive infrastructure provides. The stability of conventional order is reinforced by the interrelatedness of conventions. Conventions for different occasions and groups are not fully mutually consistent with one another to seamless whole. Some are more tightly related (horizontally and vertically) to other conventions while others are less so. Herbert Simon's concept of decomposability is applicable here. Conventions that are tightly related to others are likely to be more difficult to change.

²² To act otherwise is to implicitly admit that one does not have a good understanding of the situation and, therefore, not acting in the best way possible. People who are committed to a view of the world (confident of its validity) tend to view alternative views as either false, or inferior to their own.

It is not necessary, however, that all members in a group or society affirm conventions, especially in cooperative interactions. Among those who outwardly conform to conventions some may do so only because they believe that it is expedient. They may view conventions as arbitrary and irrational. The reason why they nevertheless conform to conventions is on the ground of expediency, that they cannot think of a viable alternative.²³ They are more likely to abandon the pretension of conformity if they perceive a more promising rule of conduct, or if their fear of retribution is lessened.

Not everyone may conform to conventions, either by affirmation or on the ground of expediency, however. In any ongoing society, there are ever-present deviants/nonconformists. Some may have not yet been persuaded of the goodness of conventions. Deviations from conventions usually arise from insufficient proficiency with the prevailing conventions, as with the youth or new arrivals. For many of them it may be a matter of time that they become proficient in conventions. Others may outright disbelieve conventions; for them conventions are neither the right nor the expedient things to do. Instead, they find an alternative mode of action to be the right thing to do. It is because they see the situation differently than the conventionalists; these nonconventionalists may see themselves as mavericks. The rank of deviants is filled with newcomers (the young and the outsider).

The deviant is both the disrupter of the stability of the conventional order; deviants challenge the knowledge commons. At the same time, the deviant is the potential originator of new conventions, as innovators, entrepreneurs, or reformers. The deviant as a disrupter of peace (either in terms of expectations or of economic interests) will, in most cases, face negative reactions from the conventionalist and often fare badly. But, if the deviant somehow, despite odds, achieves an enduring success, he or she will be eventually hailed as an innovator/entrepreneur/reformer.²⁴ Few would be inclined to argue with success. The imitation of the successful subsequently leads to the emergence of new conventions.

There is a perpetual tension between stability and change, that is, between the conventionalist's conformity to sustain the extant conventional order and the deviant's attempt to reach for something better than what conventions promise. The tension arises from conflicting visions, the conventional and the unconventional, representing a potentially viable alternative. If deviants are kept in the fringes, conventions endure; the stability of the conventional order is preserved. If the

²³ Those who conform because it is expedient may or may not have a firm conception of what alternative course of action they could take. René Descartes (2006) decided to conform to all conventions, (other than the subject of his philosophical inquiries), not because he believed that conformity was the right thing to do, but because it was prudent to do so. Not conforming would bring too much unnecessary difficulties in his life.

²⁴ When the entrepreneur/innovator introduces a new product or a new way of doing things, for example, people sometimes have to be taught its utilities and values. Once enough number of people are persuaded of its values, a stampede may follow, as in the case of iPhone, Uber, and Amazon.

deviant achieves an outstanding success as the entrepreneur or the innovator new conventions will arise, replacing the old. The nature and the extent (or the magnitude) of change may vary depending on the impact of deviations from existing conventions.

In an ongoing society, the odds of a deviant success are not great. Deviants tend to do poorly. Occasionally, deviants manage to beat the odds and succeed as innovators, entrepreneurs, or reformers. What are the factors that influence the odds of successful deviation? Surely, the quality of their vision (and the quality of their execution) relative to conventions matters, provided that the new practices attract enough support to succeed. What can influence the probability of gaining higher-quality vision and the needed support from others? The odds of success from an unconventional practice would be the greatest where there is no extant convention in the way, in spheres where there is no opposing conventionalist. But there are few such spheres.

One of the most important factors in increasing the odds of successful deviation is the *passage of time*. The reason for this is that as conventions (as collective solutions to knowledge problems in various spheres of human action) persist over time, conventionalists (wearing the conventional blinders) tend to overlook many potentially exploitable opportunities that can be had, only if they were willing to look at them with a fresh pair of eyes.²⁵ The potential for gains from an alternative understanding of the situation tends to grow over time and become easier to notice for those who cast aside the conventional blinder, or who haven't quite learned to wear one. With a passage of time, new discoveries also become easier to understand for others whose cooperation is needed to succeed from new way of doing things (even then the support for a truly breakthrough innovation is more likely to come from people in the fringes than from the mainstream).

Human beings, as conventionalists, live through numerous experiences in varied contexts and accumulate vast amounts of observations. Most of them would be recorded as consistent with conventional expectations and thus unsurprising. Those experiences and observations that do not easily fit into conventional expectations may be overlooked or dismissed as oddities. Also, some observations in a sphere that could provide a hint for improvements in another sphere may be ignored by people wearing conventional blinders, or through sheer inertia. Over time, as the gap between *what is* and *what is possible* grows, the potential for gains from an unconventional action will tend to grow, to the point that they become more easily noticeable to someone, especially if he or she is not yet fully invested in conventions (such as the young, the newcomer, or the outsider). The growing potential for

²⁵ Kirzner (1973) argues that the entrepreneur discovers unexploited profit opportunities others fail to even notice. Following Mises' stricture for economists qua economist against foray into thymological inquiry, Kirzner states that entrepreneurial discovery just happens, as a simple fact.

neglected opportunities with the passage of time, I believe, best explains simultaneous discoveries in science or swarming innovations in business.

Conventions are crucial means of reducing uncertainty by fixing expectations (i.e., by adopting certain rules) in human actions and interactions. They enable human beings to coordinate their activities and enable them to build a vast network of cooperation. But the very means by which human beings (individually and collectively) deal with the knowledge problem has the effect of leaving, over time, certain opportunities unexploited. The stability of conventions causes the conventional order to become, over time, less efficient (in the sense that the conventionalists do not pick up the proverbial \$100 bills on the sidewalk as they do not see them). In other words, conventions (and institutions) tend to become less in tune with the changing world, including cumulative observations and learning.²⁶ At some point, no one knows when and where, audacious deviants may succeed in demonstrating how the overlooked opportunities can be captured and exploited, rendering silly certain conventions held by many with religious devotions.

Let us now turn to consider the process of introducing new conventions by the agents of change, namely, entrepreneurs and innovators in introducing new conventions.

5.6 PROCESS OF CHANGE

We have established that conventions are shared cognitive infrastructures by means of which individuals in society cope with uncertainty and render familiar the world they are faced with and that these infrastructures are often governed as knowledge commons. Conventions are both *enabling* (of actions and social cooperation) and *delimiting* of our understanding of the world. Over time, conventions are liable to change as some individuals in groups or society come to face novel situations (i.e., uncertainty) for which they find no suitable conventions to use or recognize the unrealized potentials that can be captured.

A conceptual distinction can be made how novel situations may arise – endogenously or exogenously. (1) Novel situations may arise endogenously as experiences/observations incongruent with the prevailing conventions accumulate over time. When faced with an incongruent experience, the impulse of the majority of conventionalists is to ignore it. A few without strong commitments to the prevailing conventions, without the conventional blinder, may be able to see (discover) a better way of doing things, which escaped the notice of the majority of conventionalists. In other words, when we see the state of affairs with a fresh pair of eyes, it may be easy to notice that “the emperor is naked.” Those who acquire this fresh perspective may become entrepreneurs, innovators, fashion leaders/trend setters, or reformers.

²⁶ Quigley (1979) generalizes the idea as “the tendency of an instrument to become an institution.”

They are the agents of change. When they are successful, they manage to persuade others (or convert them) to new conventions. Eventually, people in society come to learn to do things differently. (2) Novel situations may also arise exogenously when individuals in a group or society, with a set of prevailing conventions, encounter (and must interact with) other individuals from another group or society with different set of prevailing conventions, or when individuals in a society experience a change in natural conditions such as a lasting climatic change, or significant demographic changes, or in social conditions such as alterations in legal framework.²⁷ In this chapter, I focus on endogenous changes in conventions initiated by the entrepreneur.

Persisting in the prevailing conventions is likely to become dysfunctional and the new circumstances may give rise over time to numerous attempts to deal with the novel situation. Individuals in society may gradually adopt what appears to be a better way of doing things, pioneered by entrepreneurs and innovators. When that happens, the structure of knowledge commons will have been altered and individuals in society come to learn to do things differently. In this chapter, we limit ourselves to the discussion of the role of entrepreneurs and innovators in changing conventions.

Since conventions are either informal or formal, and are nested and hierarchical, entrepreneurial innovations may impact at different institutional levels, ranging from informal rules of conduct and accepted business practices to legal rules and practices.

Elert and Henrekson (2014) distinguish entrepreneurship into three types – abiding, evading, and altering kinds – depending on the relationship of entrepreneurship vis-à-vis the existing *formal* institutions, such as laws and regulations. By this classification, most of entrepreneurship is abiding; entrepreneurs typically accept most of the existing informal rules, as well as laws and regulations as given and seek to maximize profit. In innovation, in other words, entrepreneurs typically break from conventions in a narrow range that is pertinent to their innovations. Abiding entrepreneurship, nevertheless, may still bring about epoch-making changes in society and add a host of new conventions to knowledge commons.²⁸ Of course, there are also entrepreneurs whose innovations consist of evading the existing laws and regulations, or whose innovations require changing the existing laws and regulations.

Entrepreneurship is motivated by profit. When successful, the entrepreneur captures above-normal profit. But how can anyone earn above-normal profit at a

²⁷ For example, the liability revolution in the United States initiated by judges committed to the cause of social justice managed to convert tort law into a social insurance (Huber 1990).

²⁸ For example, Henry Ford's mass production of automobiles by assembly lines, or Malcolm McLean's containerization of shipping are the abiding type that nevertheless had revolutionary consequences for society (Evans 2004).

sustained pace when there are many who are looking for ways to earn a higher rate of return? It is not possible by a conventional method, by doing what others are doing. What may appear to be above-normal profit, on a more careful examination, is likely to be normal returns on implicit labor or implicit capital expanded. In other words, there cannot be the proverbial \$100 bill on the sidewalk if everyone thought and acted based on the shared set of conventions.²⁹

Entrepreneurial profit, the above-normal profit, is possible only if the entrepreneur sees and exploits profit opportunities that others simply fail to see (or does see but not clearly or soon enough). The entrepreneurial profit opportunities may consist of arbitrage opportunities, or creation of new products through novel combinations, or implementing a new way of doing things that is more efficient. Whatever the nature of profit opportunities is, I contend that others fail to see them because of their conventional blinders, and that the entrepreneur sees them because he or she has adopted an unconventional (an alternative) way of seeing things.

In life, as in the business, we learn to put up with all sorts of inconveniences and problems. Over time we manage to live with them and become so accustomed to them that we are no longer even conscious of them as problems or inconveniences. We come to believe that they are facts of life. That is the power of conventions, as epistemic infrastructure for social interactions. But it is entirely possible for a nonconventionalist to recognize a gap between the actual and the potential and see a profit opportunity (from solving problems that others were not even aware, or if they were, then were vaguely wistful for a better way).

5.7 CONCLUDING REMARKS

This chapter has explored the nature of conventions as emergent solutions to the knowledge problem of society; I have suggested that conventions provide a cognitive infrastructure of society as the basis of social cooperation and that this shared cognitive infrastructure is governed as a knowledge commons. The knowledge problem as examined in this chapter is a subject matter traditionally regarded as noneconomic and untouchable. In the traditional sense of the term, conventions are indeed a noneconomic subject. But it is a subject matter no student of society can ignore because conventions, as shared cognitive infrastructures, are ubiquitous in human life. Ignoring conventions, the bedrock of individual actions and social interactions, leads to erroneous views regarding, especially, entrepreneurship and the process of change.

²⁹ This is the central idea of the dominant tradition in economics, that in a competitive market economic profit (or loss) is a transitory phenomenon through unexpected fluctuations in demand and supply (Knight 1921; Schumpeter 1934; Arrow 1974).

Conventions are ubiquitous in human life because human beings face a predicament of having to act in the face of uncertainty. Human beings face a fundamental epistemic problem. If we are cursed with uncertainty by not being fully hardwired like lower animals, we are blessed with the ability to cope with uncertainty, through the endowment of a large brain to imagine, conjecture, and peek into possibilities.

In the course of growing up and making a living, we encounter numerous novel situations that make us wonder. Each time we try to understand what the nature of a novel situation is we face it by means of conjectures. Over time, conjectures that prove to be viable come to form our understanding of the world around us and enable us to make a living with relative ease. What nature failed to hardwire, human beings wire themselves, acquiring a second nature.

Though a generally valid rule of conjecture (or inference) is not possible, we can nevertheless comprehend the process of our coping with the epistemic problem by recognizing the behavioral pattern of learning, by examining how individuals in different contexts obtain mental tools to cope with uncertainty (which become habits, routines, and dispositions) and how a group of individuals generate conventions, by mutually tempering individual mental tools, as a collective solution to the epistemic problem in society. The emergent conventions become shared cognitive infrastructure that enable cooperative social interactions.

Viewing conventions as a collective solution to the knowledge problem in society makes it clear that there is inherent epistemic tension in society. For conventions are both enabling of social cooperation and coordination, on the one hand, and delimiting of our ability to take advantage of new possibilities, on the other hand. The stability of conventions leaves many new possibilities unexploited, especially in the short run. The potential for change necessarily grows over time.

If an ongoing society appears to be orderly, that is, appears to have stability in rules of conduct and expectations, it is because most individuals in that society conform to conventions. However, it is impossible that everyone at any moment fully shares all conventions. At any moment, it is likely that some of the people in the apparently stable society may have some reservations about this or that convention or believe that they have an idea of how to do things better. This would be especially true of the new generation of people, or newcomers, who must learn to become proficient with the prevailing conventions. Not everyone may learn to become proficient in the prevailing conventions and some may find their own way of doing things. Some of these (as deviants, cranks, wild-dreamers, would-be entrepreneurs, would-be innovators, would-be reformers) may become agents of change. Many will fail in the face of inhospitable reception from conventionalists. But few that do succeed will end up persuading others to change their ways, that is, end up changing conventions.

One of the useful insights from the foregone discussions is that people who fully conform to prevailing conventions (i.e., authorities, experts and interested parties not excluded, fully immersed in the extant shared cognitive structure) usually cannot see beyond the conventional blinder.³⁰ I believe that the insights of the chapter have important implications. Consider, for example, the national innovation programs that have become globally popular (Hemel and Ouellette 2019).

Who would object to the idea that a national economy should become more innovative, with associated benefit of high value-added industries? The typical approach of traditional economics is to propose various optimal innovation policies for government, assuming away the fundamental problems of knowledge and of the discovery of profitable opportunities. In adopting the rational choice model to innovation, therefore, politicians, bureaucrats, and hired experts are implicitly presumed to have the ability to discern profitable opportunities.

It seems the critical question of whether anyone with such abilities would be content to administer government innovation programs, instead of trying to seize profitable opportunities they see/discover for themselves, is seldom, if ever, asked. Before one rushes to identify this or that industry or firm as promising of innovation for government support through subsidies or tax credits at the optimal level, or how to devise government programs to stimulate innovation, one should ask whether anyone put in charge of the innovation programs in various guises would have the ability to identify, beforehand, when, where, how, and who would innovate, and how much the putative innovations would be worth.

A serious consideration of the problem of knowledge and the question of the discovery of profitable opportunities, as presented in this chapter, would lead to the conclusion that innovation is a social experimentation and no one is in the privileged position to know the outcome beforehand.³¹ Channeling public support for one possible innovation may in fact disadvantage other truly potential but unknown innovations (Choi 2011. See also Diamond 2019; Potts 2019). From this one should conclude that the best possible innovation policy is free competition within the bounds of law and conventions, where no one shall be accorded a privileged position.

I hope that the essay is a small step toward a better understanding of the process of the formation, emergence, persistence and change in conventions as cognitive infrastructure of society. I believe useful insights into entrepreneurship (the operation of change agents) are possible. Insights from the exploration of conventions will greatly supplement the static analysis of the dominant tradition in economics.

³⁰ This view is consistent with the “weird ideas that work” Sutton (2001).

³¹ Schumpeter (1942) proposed the idea of the routinization of innovation by large corporations, believing that innovation is a function of investment in R&D. I think he overlooked the fact that most innovations are unconventional in the beginning.

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