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Knowledge and Entrepreneurship

In this chapter, we will discuss the concept and characteristics of entrepreneurship. This concept is fundamental to the Austrian school and is the pivot of Austrian economic analysis. Hence, we must examine the essence of entrepreneurship and the economic role played by the knowledge entrepreneurs generate when they act in the market. Only in this way can one comprehend the coordinating tendency of dynamic market processes, as well as the historical development of Austrian economic thought, the school we will analyze in detail in the chapters which follow.

2.1. The Definition of Entrepreneurship

In a broad or general sense, entrepreneurship actually coincides with *human action*, according to Austrians. In this respect, it could be said that any person who acts to modify the present and achieve his objectives in the future exercises entrepreneurship. Although at first glance this definition may appear to be too broad and to disagree with current linguistic uses, let us bear in mind that it fully agrees with the original etymological meaning of the term *enterprise* [*empresa* in Spanish]. Indeed, both the Spanish word *empresa* and the French and English expression *entrepreneur* derive etymologically from the Latin verb *inprehendo-endi-ensum*, which means *to discover, to see, to perceive, to realize, to capture*; and the Latin term *inprehensa* clearly implies action and means *to take, to seize*. In short, *empresa* is synonymous with action. In France, the term *entrepreneur* has long conveyed this idea, since the High Middle Ages in fact, when it designated those in charge of performing important

and generally war-related deeds, or entrusted with executing the large cathedral-building projects. The *Diccionario* of the *Real Academia Española* [the Royal Academy of the Spanish Language] gives one meaning of *empresa* as “arduous and difficult *action* which is valiantly undertaken.” *Empresa* also came into use during the Middle Ages to refer to the insignias certain orders of knighthood bore to indicate their pledge, under oath, to carry out a certain important *action*. The conception of an enterprise as an action is necessarily and inexorably linked to an *enterprising* attitude, which consists precisely of a continual eagerness to seek out, discover, create, or identify new ends and means (all of which is in keeping with the above-mentioned etymological meaning of *in prehendō*).

Entrepreneurship, in a strict sense, consists basically of discovering and perceiving (*prehendō*) opportunities to achieve an end, or to acquire a gain or profit, and acting accordingly to take advantage of these opportunities which arise in the environment. Kirzner holds that the exercise of entrepreneurship entails a special *alertness*; that is, a constant *vigilance*, which permits a person to discover and grasp what goes on around him (Kirzner 1973, 65, 69). Perhaps Kirzner uses the English term *alertness* because *entrepreneurship* originates from French and in English does not immediately imply the idea of *prehendō* that it does in the continental romance languages. In any case, the Spanish adjective *perspicaz* is quite appropriate to entrepreneurship, since, as the *Diccionario* of the *Real Academia Española* informs us, it applies to “vision or a gaze which is far-sighted and very sharp.” In addition, the term *speculator* derives etymologically from the Latin word *specula*, which denoted certain towers from which lookouts could view from a distance all that approached. Hence, these ideas fit in perfectly with the activity the entrepreneur engages in when he decides which actions he will carry out, estimates the future effect of those actions, and

undertakes them. Though *el estar alerta* may also be an acceptable indication of entrepreneurship, since it involves the notion of attention or vigilance, it appears somewhat less fitting than *perspicaz*, perhaps because the former clearly suggests a rather more static approach.

2.2. Information, Knowledge, and Entrepreneurship

In order to fully comprehend the nature of entrepreneurship as Austrians approach it, one must first understand how entrepreneurship modifies or changes the *information* or *knowledge* the actor possesses. The creation, perception, or recognition of new ends and means implies a modification of the actor's knowledge, in the sense that he discovers information he did not possess before. Moreover, this discovery modifies the entire map or context of information or knowledge the acting subject possesses. We must ask the following fundamental question: What are the characteristics of the information or knowledge which is relevant to the exercise of entrepreneurship? We will now study in detail the six basic features of entrepreneurial knowledge from the Austrian perspective: 1) It is *subjective* and practical, rather than scientific, knowledge. 2) It is *exclusive* knowledge. 3) It is *dispersed* throughout the minds of all men. 4) It is mainly *tacit* knowledge, and therefore *inarticulable*. 5) It is knowledge created *ex nihilo*, from nothing, precisely through the exercise of entrepreneurship. And 6) It is knowledge which can be *transmitted*, for the most part unconsciously, via extremely complex social processes, which Austrian authors view as the very object of research in economics.

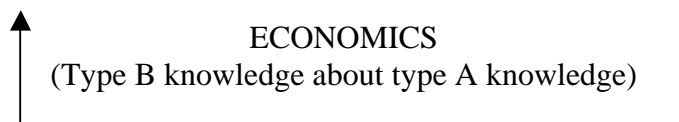
2.3. Subjective and Practical, Rather than Scientific, Knowledge

The knowledge we are analyzing, that most crucial to the exercise of human action, is above all subjective and practical, not scientific. Practical knowledge is any that cannot be represented in a formal manner, and that is instead progressively acquired by the subject through practice, i.e. through human action itself in its different contexts. As Hayek maintains, it is knowledge that is vital in all sorts of particular circumstances, or subjective coordinates of time and place (Hayek 1972, 51, 91). In short, we are referring to knowledge in the form of concrete human appraisals, information regarding both the ends the actor pursues and those ends he believes other actors pursue. This knowledge also consists of practical information on the means the actor believes are available to enable him to attain his ends, especially information about all of the conditions, whether personal or otherwise, which the actor feels may be of importance within the context of any concrete action.

We should also point out that credit goes to Michael Oakeshott for drawing the distinction between “practical knowledge” and “scientific knowledge” (Oakeshott 1991, 12, 15). Oakeshott’s distinction parallels the one Hayek notes between “dispersed knowledge” and “centralized knowledge,” the one Michael Polanyi emphasizes between “tacit knowledge” and “articulate knowledge” (Polanyi 1959, 24-25), and the one Mises makes between knowledge about “unique events” and knowledge about the behavior of an entire “class of phenomena” (Mises 1996). Table 2.1 summarizes the distinct approaches of these four authors to the two different basic types of knowledge.

Table 2.1
Two Different Types of Knowledge

	<i>Type A</i>	<i>Type B</i>
Oakeshott	Practical (Traditional)	Scientific (or Technical)
Hayek	Dispersed	Centralized
Polanyi	Tacit	Articulate
Mises	of “Unique Events”	of “Classes”



The relationship between the two sorts of knowledge is complex. All scientific knowledge (type B) rests on a foundation of tacit, inarticulable knowledge (type A). Moreover, scientific and technical advances (type B) promptly result in new, more productive and powerful practical knowledge (type A). Likewise, economic science amounts to an accumulation of type B (scientific) knowledge concerning the processes of creation and transmission of practical knowledge (type A). Now it is clear why Hayek maintains that the main risk in economics as a science lies in the danger that, as economics consists of theorizing about type A knowledge, people could come to believe that those who practice it (“economic scientists” or “social engineers”) are somehow capable of accessing the specific content of the type A practical knowledge human beings constantly create and use on an entrepreneurial level. People could even go so far as to completely disregard the specific content of practical knowledge, as has been so rightly criticized by Oakeshott, for whom the most dangerous, exaggerated, and erroneous version of rationalism would consist of “the assertion that what I have called practical knowledge is not knowledge at all, the assertion that, properly speaking, there is no knowledge which is not technical knowledge” (Oakeshott 1991, 15).

2.4. Exclusive, Dispersed Knowledge

Practical knowledge is exclusive and dispersed. This means that each actor possesses only a few “atoms” or “bits” of all of the information generated and transmitted in society, and that paradoxically, only he possesses these bits; in other words, only he accesses and interprets them consciously. Hence, each man who acts and exercises entrepreneurship does so in a strictly *personal and unrepeatabe* manner, since he begins by striving to achieve certain ends or objectives that correspond to a vision of the world and a body of knowledge concerning it, both of which only he possesses in all of their richness and diverse nuances, and which no other human being can possess in identical form. Therefore, the knowledge we are referring to is not *given* and accessible to everyone via some material means of storing information (such as newspapers, journals, books, statistics, computers, etc.). On the contrary, the knowledge crucial to human action is purely entrepreneurial, practical, and strictly exclusive, and it is only “found” *diffused* throughout the minds of each and every one of the men and women who act entrepreneurially and comprise and advance society.

2.5. Tacit, Inarticulable Knowledge

Practical knowledge is mainly *tacit, inarticulable* knowledge. This means that the actor knows how to perform certain actions (*know how*), but he cannot identify the elements or parts of what he is doing, nor whether they are true or false (*know that*). For example, when someone learns to play golf, he does not learn a set of objective, scientific rules which allow him to make the necessary movements through the application of a series of formulas from mathematical physics. Instead, the learning process consists of acquiring a number of *practical habits of conduct*. We could also cite, following Polanyi, the example of a person who is learning to ride a bicycle and

attempts to maintain his balance by moving the handlebars to the side toward which he begins to fall and creating in this way centrifugal force which tends to keep the bicycle upright, yet almost no cyclist is aware of or familiar with the physical principles behind his *ability*. On the contrary, what the cyclist actually uses is his “sense of balance,” which in some way tells him how to behave at each moment to keep from falling. Polanyi goes so far as to assert that tacit knowledge is in fact *the dominant principle of all knowledge* (Polanyi 1959, 24-25). Even the most highly formalized and scientific knowledge invariably follows from an intuition or an act of creation, which are simply manifestations of tacit knowledge. Moreover, the new knowledge we can acquire through formulas, books, charts, maps, etc. is important mainly because it helps us to reorganize our entire framework of practical, entrepreneurial information from different and increasingly rich and valuable perspectives, which in turn opens up new possibilities for the exercise of creative intuition. Therefore, the impossibility of articulating practical knowledge manifests itself not only “statically,” in the sense that any apparently articulated statement contains information only insofar as it is interpreted through a combination of prior, inarticulable beliefs and knowledge, but also “dynamically,” since the *mental process* used in any attempt at formalized articulation is itself essentially tacit, inarticulable knowledge.

Another type of knowledge that cannot be articulated and that plays an essential role in the functioning of society is composed of the set of *habits, traditions, institutions, and juridical and moral rules* which comprise the law, which make society possible, and which human beings learn to follow, though we cannot articulate in detail nor theorize about the precise function these rules and institutions perform in the various situations and social processes in which they are involved. The same can be said about *language* and also, for instance, about *financial and cost accounting*, which

entrepreneurs use to perform economic calculation as a guide for their actions, and which consists simply of a body of knowledge or a set of practical techniques that, in the context of a specific market economy, provides entrepreneurs with common guidelines for reaching their goals, even though the vast majority of entrepreneurs are unable to formulate a scientific theory of accounting, let alone explain how it helps in the complicated processes of coordination which make economic and social life possible. Hence, we may conclude that entrepreneurship as Austrian theorists view it (the innate capacity for discovering and perceiving profit opportunities and consciously acting to seize them) amounts to knowledge that is basically tacit and inarticulable.

2.6. The Essentially Creative Nature of Entrepreneurship

The exercise of entrepreneurship does not require any means. That is to say, entrepreneurship does not entail any costs and is therefore fundamentally creative. This creative aspect of entrepreneurship is embodied in its production of a type of profit which, in a sense, arises out of nothing, and which we will therefore refer to as *pure entrepreneurial profit*. To derive entrepreneurial profit, one needs no prior means, but only to exercise entrepreneurship well.

It is particularly important to emphasize that any act of entrepreneurship brings about three extraordinarily significant effects. First, entrepreneurship *creates* new information. Second, this information *is transmitted* throughout the market. Third, the entrepreneurial act *teaches* each of the economic agents involved to tune their behavior to the needs of the others. These consequences of entrepreneurship, as the authors of the Austrian school have analytically formulated them, are so important that they are worth studying closely one by one.

2.7. The Creation of Information

Each entrepreneurial act entails the *ex nihilo* creation of new information or knowledge. This creation takes place in the mind of the person who initially exercises entrepreneurship. Indeed, when a person we will call “C” realizes that a profit opportunity exists, new information is created in his mind. Furthermore, once “C” takes action and contacts, for instance, “A” and “B,” and buys cheaply from “B” a resource “B” has too much of and then sells it at a higher price to “A,” who needs it urgently, new information is also created in the minds of “A” and “B.” “A” realizes that the resource he lacked and needed so desperately to accomplish his end is available elsewhere in the market in greater quantities than he had thought, and that therefore he can now readily undertake the action he had not initiated before due to the absence of this resource. For his part, “B” realizes that the resource he so abundantly possesses yet did not value is keenly desired by other people, and that therefore he should save and protect it, since he can sell it at a good price.

2.8. The Transmission of Information

The entrepreneurial creation of information implies its *transmission* in the market. Indeed, to transmit something to someone is to cause that person to generate in his own mind part of the information which other people have created or discovered beforehand.

Strictly speaking, though the above example includes the transmission to “B” of the idea that his resource is important and that he should not waste it, and to “A” of the idea that he can go ahead in the pursuit of the goal he had set himself yet failed to work toward due to the lack of this resource, more has been communicated. In fact, the respective market prices, which constitute a highly powerful system of transmission,

since they convey a large amount of information at a very low cost, communicate in successive waves to the entire market or society the message that the resource in question should be saved and husbanded, since there is a demand for it, and at the same time, that all those who, owing to a belief that this resource does not exist, are refraining from undertaking certain actions, can obtain the resource and go ahead with their corresponding plans of action. As is logical, the crucial information is always subjective and does not exist beyond the people who are capable of interpreting or discovering it, so it is always human beings who create, perceive, and transmit information. The erroneous notion that information is objective stems from the fact that part of the subjective information which is created via entrepreneurship is expressed “objectively” in signs (prices, institutions, rules, “firms,” etc.) which can be discovered and subjectively interpreted by many within the context of their particular actions, thus facilitating the creation of new, subjective information that is increasingly rich and complex. Nevertheless, despite appearances, the transmission of social information is basically tacit and subjective; that is, the information is not expressly articulated, and it is conveyed in a highly abridged manner. (In fact, only the minimum amount necessary for coordinating the social process is subjectively transmitted and received.) The above enables people to make the best possible use of the human mind’s limited capacity to constantly create, discover, and impart new entrepreneurial information.

2.9. The Learning Effect: Coordination and Adjustment

Finally, we must draw attention to the way in which social agents learn to act in tune with one other. For example, “B,” as a result of the entrepreneurial action originally undertaken by “C,” stops squandering the resource available to him and conserves it instead, acting in his own interest. As “A” can then count on employing

this resource, he is able to achieve his end, and he embarks on the action he had refrained from performing before. Hence, both learn to act in a *coordinated manner*; that is, to discipline themselves and modify their behavior in terms of the needs of the other. Moreover, they learn in the best conceivable manner: *without realizing they are learning* and *motu proprio*; in other words, voluntarily and within the context of a plan in which each pursues his particular ends and interests. This alone is the *core* of the simple, effective, and marvelous process which makes life in society possible. Finally, we must observe that the exercise of entrepreneurship by “C” not only permits a coordinated action previously absent between “A” and “B,” but also allows both to make an *economic calculation* within the context of their respective actions, using data or information which was unavailable to them before and which makes them much more likely to successfully reach their own objectives. In short, the information generated in the entrepreneurial process is precisely what makes possible economic calculation, understood as any value judgment regarding different alternatives or courses of action. In other words, without the free exercise of entrepreneurship within the context of a market economy, the information necessary for each actor to properly calculate or estimate the value of each alternative course of action is not created. In brief, *without entrepreneurship, economic calculation is impossible*. Not only is this one of the most significant conclusions that emerge from Austrian economic analysis, but it also lies at the heart of the theorem of the impossibility of socialist economic calculation, as Mises and Hayek discovered it, a topic we will return to in later chapters.

The above observations constitute both the most important and the most fundamental teachings of social science, and they allow us to conclude that entrepreneurship is undoubtedly the quintessential social function, given that it makes

life in society possible by adjusting and coordinating the behavior of its individual members. Without entrepreneurship, even the existence of society is inconceivable.

2.10. The Essential Principle

From the theoretical perspective of the Austrian school, what is truly important is not who specifically exercises entrepreneurship (though in practice this is precisely the most important question), but that a situation exist in which there are no institutional or legal restrictions on the free exercise of entrepreneurship, and hence each person is free to use his entrepreneurial abilities as well as possible to create new information and take advantage of the exclusive, practical information he has discovered in any particular set of circumstances. Therefore, it is no mere coincidence that politically speaking, most Austrian theorists are libertarian philosophers who are deeply committed to defending an uncontrolled market economy.

It does not fall to the economist, but rather to the psychologist, to study in greater depth the origin of the innate strength which motivates man to act in an entrepreneurial manner in all areas. At this point, we will merely highlight the following essential principle: *people tend to discover the information which interests them, and hence, if they are free to accomplish their ends and promote their interests, both of these will act as incentives to motivate them in the exercise of entrepreneurship and will permit them to continually perceive and discover the practical information which is vital to the achievement of their objectives.* The opposite is also true. If, for whatever reason, the scope for the exercise of entrepreneurship is narrowed or eliminated in a certain area of social life (via legal, institutional, or traditional restrictions, or through interventionary measures implemented by the state in the economy), then humans will not even consider the possibility of accomplishing ends in

that *prohibited or limited area*, and therefore, *since the ends will not be achievable, they will not act as incentives, and the actor will not perceive nor discover the practical information crucial to the achievement of them.* Furthermore, under such circumstances, not even the people affected will be aware of the tremendous value and large number of the goals which cease to be realizable as a result of these institutional restrictions (interventionism or socialism).

Finally, let us bear in mind that each man-actor possesses some *bits* of practical information which, as we have seen, he tends to discover and use to accomplish an end. Despite its social implications, only the actor has this information; that is, only he possesses and interprets it consciously. It is clear we are not referring to the information published in journals, books, and newspapers, nor that stored on computers, expressed as statistics, etc. The only information or knowledge which is vital to society is that which someone is aware of, though in most cases only tacitly, at any particular point in history. Therefore, each time man acts and exercises entrepreneurship, he does so in a characteristic, *personal, and unrepeatable* manner all his own, a manner which arises from his attempt to gain certain objectives or pursue a specific vision of the world, all of which act as incentives and which, in their particular form and circumstances, only he possesses. *The above enables each human being to obtain certain knowledge or information, based entirely on his own ends and concrete circumstances, which no other person can experience in an identical form.*

Thus the key importance of not disregarding anyone's entrepreneurship. Even the humblest people, those of the lowest social status, or the most lacking in formal knowledge, will exclusively possess at least small bits or pieces of knowledge and information which can be of decisive value in the course of social events. From this standpoint, it is obvious that our concept of entrepreneurship is of an essentially

humanistic nature, a concept which makes economics, as it is understood and advanced by members of the Austrian school, the quintessential humanistic science.

2.11. Competition and Entrepreneurship

The word *competition* derives etymologically from the Latin term *cum petitio* (the concurrence of multiple requests for the same thing, which must be allotted to an owner), which comprises two parts: *cum*, with; and *petere*, to request, attack, seek. *Merriam-Webster's Collegiate Dictionary* (11th ed.) defines *competition* as “a contest between rivals.” Thus, competition consists of a *dynamic process of rivalry*, and not the so-called “model of perfect competition,” in which multiple offerers do the same thing and all sell at the same price; that is, a situation in which, paradoxically, no one competes (Huerta de Soto 1994, 56-58).

By its very nature and definition, entrepreneurship is always *competitive*. This means that once an actor discovers a certain profit opportunity and acts to take advantage of it, the opportunity tends to disappear, and no other actor can then perceive and seize it. Likewise, if an actor only partially discovers an opportunity for profit, or, having discovered it completely, takes only partial advantage of it, then a portion of that opportunity will remain latent for other actors to discover and grasp. Therefore, the social process is markedly competitive, in the sense that different actors *compete* with each other, consciously and unconsciously, to be the first to perceive and embrace profit opportunities.

Every entrepreneurial act uncovers, coordinates, and eliminates social maladjustments, and the fundamentally competitive nature of entrepreneurship makes it impossible for any actor to perceive and eliminate maladjustments anew once they have been discovered and coordinated. One might mistakenly think that the social process

driven by entrepreneurship could lose momentum and come to a stop or disappear, once the force of entrepreneurship had revealed and exhausted all of the existing possibilities of social adjustment. *However, the entrepreneurial process of social coordination never stops nor is exhausted.* This is because the essential coordinating act amounts to the creation and transmission of new information which necessarily modifies among all of the entrepreneurs involved the general perception of ends and means. This change in turn gives rise to the appearance of an unlimited number of new maladjustments, which spark new opportunities for entrepreneurial profit, and this dynamic process spreads, never comes to a halt, and results in the constant advancement of civilization. In other words, entrepreneurship not only makes life in society possible by coordinating the maladjusted behavior of its members, but it also fosters the development of civilization by continually prompting the creation of new objectives and knowledge which spread in consecutive waves throughout all of society. Furthermore, entrepreneurship performs the very important function of *enabling this development to be as adjusted and harmonious as humanly possible under each set of historical circumstances*, because the maladjustments which are constantly created as civilization evolves and new entrepreneurial information emerges tend in turn to be discovered and eliminated by the entrepreneurial force of human action itself. That is, entrepreneurship is the force which unites society and permits its harmonious advancement, since it also tends to coordinate the maladjustments this process of advancement inevitably brings forth.

Therefore, the entrepreneurial process gives rise to a sort of continuous social “Big Bang” which permits the *boundless* growth of knowledge. As we have seen, Austrian theorists offer, as an alternative to the neoclassical model of general or partial equilibrium, a paradigm based on the “general dynamic process” or “social Big Bang,” which expands constantly and tends toward coordination. Moreover, it has even been

calculated that the limit to the expansion of knowledge on earth is 10^{64} bits (Barrow and Tipler 1986, 658-677), and thus it would be possible to multiply by more than 100 billion the physical limits to growth which have been considered up to now. The same authors have mathematically demonstrated that a human civilization based in space could expand its knowledge, wealth, and population *without limit*. Both base their calculations on the main contributions of the Austrian school, in general, and Hayek in particular. Tipler concludes: “Much nonsense has been written on the physical limits to economic growth by physicists who are ignorant of economics. A correct analysis of the physical limits to growth is possible only *if one appreciates Hayek’s insight that what the economic system produces is not material things, but immaterial knowledge*” (Tipler 1988, 4-5).

2.12. Conclusion: The Austrian Concept of Society

We will conclude by defining society as a *process* (i.e. a dynamic structure) which is: *spontaneous*, and thus not consciously designed by anyone; *highly complex*, since it comprises millions and millions of people with an infinite range of constantly changing goals, tastes, valuations, and practical knowledge; and *composed of human interactions* (which are basically exchange dealings that frequently yield monetary prices and are always carried out according to certain rules, habits, or standards of conduct). All such human interactions are motivated and driven by the *force of entrepreneurship*, which continually *creates, discovers, and transmits* information or knowledge, as it *adjusts* and *coordinates* different people’s contradictory plans through *competition* and enables them all to coexist in an increasingly rich and complex environment.