# An Introduction to *Expert Failure:* Lessons in Socioeconomic Epistemics from a Deeply Embedded Method of Analysis

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## I.

*Expert Failure* by Roger Koppl (2018) is a compelling economic analysis of the demand and supply forces governing and disciplining the knowledge market of expert opinion, especially the one influencing the public sector broadly defined and public policy. Koppl suggests that these forces are not sufficiently freely competitive: there are too many barriers to entry, too many monopolistic distortions, and too many taken-for-granted, wrong-headed perceptions. This situation leads to deadweight losses. Ergo, barriers to entry must be broken down, monopolistic distortions eliminated, and perceptions rectified. To do so, the market for expert opinion must be rendered more freely competitive.

What lies conceptually behind Koppl's wake-up call? How does he put forth his case? What are the building blocks of his conclusions? What are the pillars of his normative prescriptions?

Koppl's economic analysis is primarily cognitive. At its core, the book can be seen as an attempt to extend the Hayekian limited cognition problem from knowledge dispersion (Hayek 1937, 1945)—and, by implication, the related Smithian division of labor theory (Smith 1776)—in terms of field of application as well as in terms of sophistication; where the nexus between Smith and Hayek, Koppl often reminds us, is the work of Bernard de Mandeville, especially his *Fable of the Bees*. In Koppl's approach, division of knowledge and division of labor co-evolve without central design—invisibly, in an unintentional fashion. The consequence is that *Expert Failure* is a treatise in *socioeconomic epistemics*.

The bulk of what follows is dedicated to a summary of the content of *Expert Failure* against the backdrop of the method of analysis employed. Indeed, it is the uniqueness of the proposed method that allows Koppl to seamlessly weave together broad insights from classical and Austrian economics, comparative institutional analysis, and Public Choice into what he dubs "information choice theory." Our claim therefore is that to fully appreciate what *Expert Failure* achieves it is important to clearly understand its method, which we shall refer to as *deeply embedded*. Ultimately, our stance is more constructive than critical: we mainly point to some of the ways in which the arguments of *Expert Failure* could be extended through links to some complementary methodological ideas. Our extension allows us to conclude on a more optimistic normative note than Koppl.

## II.

Those familiar with Koppl's work will soon realize how this book generalizes in several fundamental directions his earlier work about the economics of forensic science (Koppl 2005), and relates explicitly even to his earlier research program on so-called Big Players (Koppl 2002). But now the canvas is much larger, and the analytics rely on a lens with a much wider angle.

*Expert Failure* draws on a variety of sources and disciplines: economics, most obviously; but also forensic, organization and policy science, philosophy, sociology, and others. For example, early on we learn that the proposed theory of experts is "on all fours with the theories of philosophers such as Mannheim (1985) and Foucault (1980), science and technology scholars such as Turner (2001) and Collins and Evans (2002), and sociologists such as Berger and Luckmann (1966) and Merton (1976)" (Koppl 2018, p. 8). *Expert Failure* moreover contains helpful disquisitions on ancient Greek philosophy and on Scottish moral philosophy; on classical economics and on division of labor; on spontaneous order and evolution; on information theory and on phe-

nomenology; on power and influence; and on the importance of context for decision- and policy-making.

Koppl hammers down as hard as possible the point that experts are people too. As such, expert opinion can be flawed, behaviorally as well as motivationally. Behaviorally, we all suffer from cognitive limitations. Motivationally, we all respond to incentives, even if the response could be expedient. Thus, an expert is not different from the next person. An expert is fallible. Given human fallibility, expert opinion, like everyone else's, must be taken with a grain of salt. Experts fail for *both* knowledge and incentive problems; maybe more interesting, they can fail for knowledge problems even when incentives are properly aligned.

This simple inescapable realization residually implies that we need not forget the institutional environment—the rules of the game—within which individuals operate. If knowledge were perfect and incentives always aligned, then there would be no need for institutions. But institutions are there to aid our purposive action. Institutions must be studied in conjunction with human action—they cannot be meaningfully separated. Equally important, institutions, like people, are imperfect. So, no matter what, the net of it is that the best we can hope for is a second-best world.

## III.

Let us start from the unit of analysis—the expert. There have been many definitions over the years about what constitutes an expert. One often-employed definition is that an expert is any individual with expertise. But, analytically, this is not a sufficiently tight definition. For, given the natural division of labor and of knowledge, it includes everyone: we are all experts in something according to this definition. Reasoning according to the "economic point of view" (Kirzner 1976) offers an analytically tighter definition, which is often repeated in *Expert Failure*: an *expert is anyone who is paid for their opinion*. To put it differently, what sets the expert apart from the nonexpert (variously layperson, layman or laity) is that the expert receives remuneration for an informed guess whereas the nonexpert does not.

This tighter definition naturally leads to the knowledge problem. Hayek's insights about knowledge dispersion are applied to a narrower domain: the expert opinion market instead of *the market*. More importantly, Hayek's insights are expanded.

Austrian, evolutionary and institutional economists, theorists of the firm, and management and technology policy scholars in particular are aware that knowledge comes in many varieties—codified, explicit, general, specific, sticky, etc. More specifically for Koppl's (2018, p. 120) information choice theory, knowledge is "SELECT, which represents the idea that knowledge may be Synecological, EvoLutionary, Exosomatic, Constitutive, and Tacit." Consider Koppl's knowledge varieties in reverse order.

The notion of tacit knowledge has deep roots. It is found in the work of Michael Polanyi (1958), and saw an explosion of interest, roughly from the 1980s, thanks to work on the theory of the firm (Richardson 1972). We have in mind especially the related research programs dealing with routines (Nelson and Winter 1982), capabilities (Teece, Pisano and Shuen 1997) and competences (Dosi and Marengo 1995) (which nowadays all seem to have reached a plateau in terms of research interest, and unfortunately have also penetrated little in so-called mainstream economics). Polanyi's oft-cited illustration of tacit knowledge refers to the inability of Hungarians to get a light-bulb machine to work, although the machine was identical to one that functioned perfectly well in Germany. The lesson being that not all knowledge can be represented by a set of blueprints: knowledge can be difficult to articulate and transmit.

Constitutive knowledge forms part of the phenomenon to be explained. It "guides action. It need not exist prior to or separately from the actions so guided. I did not know how to ride a bicycle prior to the action and my bicycle know-how is not independent of my bicycle riding. … Expertise is generally constitutive knowledge derived from the expert's place in the social division of labor" (Koppl 2018, p. 124). Though there can be overlap, constitutive knowledge is contrasted to speculative knowledge, which instead tries to explain social and natural phenomena. "Sailors had a *constitutive* knowledge of their craft long before scientists acquired a *speculative* knowledge of the mathematical principles of sailing" (Koppl 2018, p. 123, original emphasis).

Exosomatic knowledge relates to Popper's (1978) well-known "Three Worlds" categorization, and especially "world 3," where we find books and other fruits of human creativity (art, language, legends, mathematics, music, etc.), including feats of engineering (airplanes, airports, automobiles, ships, trains, etc.), that contain knowledge outside the human mind. "Knowledge is exosomatic if it is embodied in objects existing outside the organism that uses such knowledge" (Koppl 2018, p. 121). A good illustration for the theory of experts "might be an egg timer. The knowledge of when to remove the egg from the boiling pot is embodied in the egg timer, which exists apart from the cook" (Koppl 2018, p. 122).

The evolutionary element of Koppl's SELECT knowledge is arguably the easiest to intuit. The principles of evolution—variation, selection and retention—apply to knowledge too. Knowledge expands through an ateleological process of trial and error. The process leads to variations in knowledge, where the relatively better variations are selected from the relatively worse and retained. What is at play is basically the familiar logic of evolutionary epistemology found in Lakatos, Popper and others, but applied to a context different from methodology of science.

SELECT's synecological element is arguably the most fundamental epistemic pillar upon which *Expert Failure* rests. It is an adjective deriving from the ecological notion of synecology (etymologically: same ecology), which is the "study of the relationships between the environment and a community of organisms occupying it," and can also refer to "the relationships themselves." In Koppl's theory synecological knowledge translates into the idea that "such knowledge is generated by the interactions of elements in" the same environment (or ecology), "and is not separable from these elements, their interactions, or their environment" (Koppl 2018, p. 121). The classic *I, Pencil* parable remains one of the simplest illustrations to grasp synecology. The knowledge about how to make a pencil does not rest entirely with one individual. It is held, in a fragmented fashion, by a set of interacting individuals all contributing to the same objective (pencil-making) given their own unique knowhow (Koppl 2018, pp. 120-1).

Koppl derives two intriguing implications for a theory of experts that assumes SELECT knowledge. The first refers to "synecological redundancy" (Koppl 2018, p. 184), viz. the notion that a social system (e.g., community, state, firm) should have heterogeneous elements that perform the same function. If this redundancy property is satisfied, then the system will improve its chances of survival in the face of change. This notion is well known to students of polycentric systems, such as Hayek, Vincent Ostrom, Polanyi, and their scholars. The idea is that if we have different elements performing the same functions, then the system will persist even if an element breaks down. Think of the differently colored light bulbs decorating a Christmas tree that keep working even if one or more burn out. Or think about "Linus's Law" (after Linus Torvalds, creator of the first Linux kernel) in the production of Open and Free Software (Garzarelli and Fontanella 2011); that is to say that "given enough eyeballs, all bugs are shallow" (Raymond 2001, p. 8).

The second implication concerns "synecological bias, which is the bias arising from synecologically bounded rationality. The division of knowledge makes it impossible for anyone to avoid a limited and partial perspective, which implies a kind of parochial bias in our perceptions and judgments. Only multiplying the number of experts and putting them in a position of genuine rivalry can mitigate this important form of bias" (Koppl 2018, p. 199).

In other words, expert competition from synecological redundancy can help mitigate synecological bias. To extend the ecological parallel, the competition within a system benefiting from synecological redundancy can lead to knowledge growth from the various ecotones that exist among the competing experts. In ecology, an ecotone is an area of transition, a space where there is tension (*tonos*) between environments (*oikos*). In social systems we may consider an ecotone as that interstice (Lachmann 1971; Foss and Garzarelli 2007) where the frequency of synecological redundancy is highest. A social ecotone is a space where there are *both* idiosyncratic bits of knowledge and shared bits of knowledge that interact in nontrivial ways from active rivalry, and lead to SELECT's knowledge evolution. One can find concrete social illustrations of ecotonal competition in economic and political sociology as well as in economic history (Baechler 1975; Tilly 1985; Jones 2003).

More generally, synecological bias suggests that even if all incentives are properly aligned, there could still be errors in expert opinion in light of limited cognition and context (i.e., synecologically bounded rationality). There thus could be errors in decision making as well: individuals can still make errors when the institutional environment manages to align incentives, i.e. errors can be made in good faith. We may conceive of synecological bias as the *parallax error of social systems*.

Synecological bias is what mostly distinguishes information choice theory from Public Choice. There are few contributions that attempt to explicitly bridge Austrian knowledge dispersion insights with Public Choice's emphasis on the problem of incentive alignment in the public sector (e.g., Wagner 1993; Garzarelli and Holian 2014), and one can reasonably argue that *Expert Failure* is so far the most sophisticated and promising.

## IV.

So at the core of information choice theory is the idea that variegated knowledge lives divided within an environment and is harnessed as needed, according to objective to be pursued. At the methodological level this means that in social science it is not possible to isolate individual from circumstance. We can say that in any social relationship a "third character" comes into play, namely the context made up of individuals and rules. This third character can never be avoided—it is always present in social interactions (Ortega y Gasset 1932, p. 540).

The sociological counterpart to this methodological stance is to say that human action is embedded (Hirschman 1982; Garzarelli and Thomassen 2006). This is meant not in the naïve sense that the individual disappears overshadowed by volitional wholes; rather, the idea is that individual interaction can be also coordinated by repeated social interaction (Granovetter 1985). Repeated interaction in turn leads to emergent properties, such as division of labor and of knowledge, and spontaneous orders. The "productivity of social cooperation surpasses in every respect the sum total of the production of isolated individuals," wrote Mises (2013[1933], p. 39) in a related context. The whole still has no will. But at times it also can be not just the sum of the parts.

Epistemically, Koppl's preferred battle horse, this deep embeddedness can be read at two levels. The first, and arguably more straightforward, is the motivational level. At this level resides the puzzle that pushes the scientist to study a particular socioeconomic phenomenon in the hope to contribute to knowledge.

The second level, more central to present concerns, is substantive. It refers to how individuals act given their limited cognition. In scientific practice, this level is at present split into two. Yet our ultimate argument is that, for a richer epistemic approach, the two sides of this level ultimately ought to methodologically overlap in the scientific practice of *social* science.

On the one hand, there is the scientific side. The scientist in social science, differently from the one in natural science, often cannot control everything as in a laboratory, because her objects of analysis—other individuals—are not easy to parameterize. The greater complexity of individuals means that they are less predictable, in a narrow sense, than planets' motion or rodents' directional response to stimuli in a maze. Still, one can look for broad trends. These are Hayek's well-known *pattern predictions*, which work as long as we stick to rationality as the primitive attribute of human action. Rationality here should be conceived in its more mundane denotation, namely to mean that individuals behave the way they do because they have reason to do so in light of their intents and constraints (e.g., Simon 1985; Boland 2003, p. 40). This reasonableness view of rationality is in agreement with acting through simple heuristics rather than by mathematically optimizing. The majority of us, for instance, routinely place keys in the same spot of our home because it economizes on search costs.

On the other hand, there is the side of the agent under study. Here we know that, *contra* Mill and others, the approach of psychologism is inappropriate. To understand human action the analysis must shift towards the institutional setting by practicing: (i) the situational analysis of Alfred Schütz, Max Weber, and others broadly operating within the Popper-Hayek research program (Koppl and Whitman 2004); and, (ii), comparative institutional analysis, viz. the assessment of the economizing properties of feasible rather than ideal institutional alternatives (Demsetz 1969; Djankov, Glaeser, LaPorta, Lopez-de-Silanes, and Shleifer 2003).

Taken together the two cognitive sides of the substantive methodological level point to the importance of both heuristics (individuals) and institutions (rules). One shorthand to refer to both sides simultaneously is *ecological rationality*. (For a nuanced doctrinal and methodological assessment of both sides of ecological rationality, see Dekker and Remic 2018.)

Koppl (2018, e.g., p. 120) has especially in mind the (non-constructivist) side of ecological rationality dealing with institutions, namely

> an un-designed ecological system that emerges out of cultural and biological evolutionary … processes: home grown principles of action, norms, traditions, and 'morality' … . Ecological rationality uses reason—rational reconstruction—to examine the behavior of individuals based on their experience and folk knowledge, who are 'naïve' in their ability to apply constructivist tools to the decisions they make; to understand the emergent order in human cultures; to discover the possible intelligence embodied in the rules, norms, and institutions of our cultural and biological heritage that are created from human interactions but not by deliberate human design. People follow rules without being able to articulate them, but they can be discovered. This is the intellectual heritage of the Scot-

tish philosophers, who described and interpreted the social and economic order they observed (V. Smith 2003, pp. 469-470).

On the institutional side of ecological rationality the point is thus that institutions, especially those that evolve unintentionally and withstand evolutionary pressure, can compensate for limited cognition.

What about the epistemics of the ecological rationality side regarding heuristics? In this case too ecological rationality is pragmatic rather than logical—it is about what heuristics are feasible and not about which are ideal. Moreover, it is also about evolution: we select simple protocols that work for the immediate purposes at hand; so-called *fast and frugal heuristics* (Gigerenzer, e.g., 2014).

However, rather than compare the efficacy of institutional alternatives in guiding and binding behavior, the heuristics side of ecological rationality compares the efficacy of competing fast and frugal heuristics in enabling rational behavior in light of the environment. The criterion of comparison is the same, but the object of comparison is not. Ecological rationality here explicitly refers to "domain-specific heuristics [and not] optimization, omniscience, or consistency." Heuristics' "success (and failure) is in their degree of adaptation to the structure of environments, both physical and social. *The study of the match between heuristics and environmental structures is the study of ecological rationality*" (Gigerenzer 2001, p. 38, our emphasis).

Methodologically, the bottom line is that the two sides of ecological rationality—institutions and heuristics—ought to be studied simultaneously. When they are not, we lose useful information.

Consider Koppl's observations about the nature of the US state. The US state is deeply entangled. That is, it is an organization subject to "the rule of experts" (Koppl 2018, p. 226). But if experts can fail, then it is not clear why there should be a top-down knowledge imposition. At the same time, Koppl is not overly optimistic about how information choice theory can make a normative difference in terms of removing the imposition. He writes that his scheme for "piecemeal institutional reform (which is mostly borrowed from Vernon Smith) does not have an obvious application to the entangled deep state." If his "diagnosis of the deep state is at all correct, reform is urgently required." At the same time, Koppl does not have "specific ideas on how we might attempt to roll back the deep state with a reasonable prospect of success. … I warned of the dangers of precipitate change. It is fine to exclaim upon the urgency of reform. It would be much better to have a realistic program for such reform. I regret that I do not" (Koppl 2018, p. 234).

Yet the heuristic side of ecological rationality—which is not central to Koppl's analysis—reserves hope. One program for reform is to invest in making individuals more *risk savvy*. It is possible to educate individuals early in life to become better—'more expert'—decision makers; i.e., to follow fast and frugal heuristics from a young age (avoid smoking, brush your teeth, do not free ride, eat healthy, exercise, etc.). Investing in risk-savvy individuals "enables a sustainable solution: citizens who see through manipulation and can make informed decisions themselves" (Gigerenzer 2015, p. 380). Somewhat paradoxically, a possible solution to the tyranny of experts—the entangled deep state—is to improve the expertise of *more* individuals along more than one decision making margin.

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