



Risk, Uncertainty and Profit's several languages

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Frank Knight's aim was to evaluate how well democracy's socioeconomic institutions enabled and protected the individual's freedoms to create, exchange, and consume. In *Risk, Uncertainty and Profit*, Knight compared a rigorous economic language against a language of entrepreneurial judgment. These two languages are separated by Knightian uncertainty. Knight's pluralist epistemology embraced several modes of knowing. The hallmark of the institutional method is that the individual's knowing, and all real-world socioeconomic arrangements, are dynamic, malleable, and uncertain. While Knight's language of rigorous methods helped the Chicago School dominate modern economics, his language of entrepreneurship was less clear but arguably more fruitful.

KEYWORDS: Frank Knight, uncertainty, language

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3 *“The key to the whole tangle will be found to lie in the notion of risk and uncertainty*
4 *and the ambiguities concealed therein” (Knight 2006, 19)*
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9 **Introduction**

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11 Frank Hyneman Knight (hereafter FHK) is an enigmatic figure in the history of economic
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13 thought. There are many different interpretations of his contributions, given he “rarely made any
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15 argument elegantly or systematically” (Mirowski and Hands 1998, 270). To some, he was “the
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17 Prophet of Freedom” (Cowan 2016): an unwavering champion of the free market, an ideological
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19 position embraced by his famous students Milton Friedman and George Stigler. Thus, FHK is
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21 often considered the founder of the Chicago School and its rigorous methodology (Van Horn,
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23 Mirowski, and Stapleford 2011). Others argue this erases FHK’s “theoretical and philosophical
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25 depth” and his “distinctive originality” (Hodgson 2001a, 69).
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30 FHK rejected the scientific view of economics (Hands 1997), criticizing mainstream
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32 economics for downplaying the economic life’s agentic and moral aspects, for framing the
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34 economic actor as an “amoral automaton” (Hodgson 2001a, 70). FHK’s critique was not limited
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36 to rationalism in economics, as he criticized behaviourism too (Asso and Fiorito 2001). Being so
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38 much the critic, it is difficult to classify FHK into any of the dominant schools of economic
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40 thought. Nonetheless, FHK has been called a neoclassicist (Samuels 1977; Yonay 1998), an
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42 Austrian (Gonce 1972; Lachmann 1947; McKinney 1977) and an institutionalist (Hodgson
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44 2001a). In this essay, we see FHK as an enquirer into entrepreneurship, capitalism’s art-form.
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49 Most know of FHK as the author of *Risk, Uncertainty and Profit* (hereafter *RUP*). Yet the
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51 work is as enigmatic as its author, likewise open to being interpreted in many ways. It is mostly
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53 cited for introducing the distinction between risk and Knightian uncertainty. However,
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3 attempting to identify Knightian uncertainty is challenging, even potentially paradoxical.¹ FHK
4 was fond of paradoxes, seeing them as showing that some fundamental question had been
5 mischaracterized, that language was being misused (Knight 1997, 76). Paradoxes show the limits
6 of natural language, what the real world's economic actors create and deploy to haggle, trade,
7 and collaborate. Thus, an underappreciated aspect of *RUP* is what it has to say about the
8 relationship between Knightian uncertainty and the various languages of economic analysis.
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17 Whereas FHK sets out a formal, analytic language of economic theorizing in Parts One
18 and Two of *RUP*, he delves into the natural language of economic practice in the world-as-it-is
19 (hereafter *WAI*) in Part Three. We explore the role of natural language under uncertainty and
20 how the creation of new language enables new institutions and practices, especially new firms.
21 FHK's real target was "a fuller and more careful examination of the entrepreneur" (Knight 2006,
22 xi), not the formal theory now associated with the Chicago School. But FHK never lost his hope
23 for a formal theory, perhaps lying behind his understanding of entrepreneurship. Whatever
24 FHK's intents, *RUP* has a secure place in early-20th century American institutional economics
25 alongside the work of J. M. Clark, J. R. Commons, and Thorstein Veblen (Rutherford 2011).
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38 Economists in the neoclassical mould tend to dismiss uncertainty because it inhibits
39 formal modelling (Hodgson 2001a). Yet the *fons et origo* of FHK's economics sprang from his
40 critique of formal language. Ultimately, Knightian uncertainty is the absence of economically
41 relevant language. The liar's paradox – everything I say is a lie – shows how a natural language's
42 contradictions can make it irrelevant. FHK elaborated his critique of formal language in his 1924
43 *The Limitations of Scientific Method in Economics*, stating the analyst's starting point must be
44 the "common-sense notion of value", not "resource" (Knight 1997, 97). In *RUP* he criticized the
45 assumption that "men's economic activities are rational or planned" (Knight 2006, 52). He
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3 noted: “The basis of a *science* of conduct must be fixed principles of action, enduring and stable
4 motives. It is doubtful, however, whether this is fundamentally the character of human life”
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6 (Knight 2006, 53). Mathematical models and abstract theorizing might provide partial statements
7
8 about economic behaviour, but never for human behaviour *in toto* because we are not capable of
9
10 complete rationality. Rather, he saw economic behaviour as ethically burdened, value-laden, and
11
12 value-driven. We relate to one another through a natural language based on shared meanings,
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14 traditions, and norms that reflect our heterogenous tastes and preferences, malleable and socially
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16 formed. Such enquiry demanded a pluralistic approach (Knight 1961, 188).
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22 Paradoxically, all uncertainty presumes knowing enough to know one does not know. We
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24 have to know “something” about the world to know we do not know (Knight 2006, 199). Thus,
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26 absent uncertainty there are no questions, nothing to discuss or be known. Language arises only
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28 because we are uncertain, with questions that call for answers. Economic practice in the *WAI* is
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30 reciprocal activity between bounded individuals with questions and needs. However, there are no
31
32 given languages. Rather, those used are forward looking, generated by those engaging in
33
34 economic practice, and then sometimes borrowed by others (Farber 2006; Knight 2006, 200, 37).
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36 Language-making can create new knowledge and use-value for those participating, enabling
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38 them to contend with the ethical issues inherent in their reciprocal relationships as they deal with
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40 the uncertainties and constraints of their individual agency and social institutions (Hodgson
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42 2003b). In short, socioeconomic practice relies on shared language as the most basic of all social
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44 institutions (Hodgson 2006; Searle 1995, 2005).
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49 We look first into language as a social institution, something shared between involved
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51 individuals, facilitating purposive action and interaction. By language we mean systems of
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53 communicable meaning that shape individuals’ practice, even if conscious meaning eventually
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3 sediments into habit. Institutional language and behaviour are in-the-world, natural rather than
4 abstracted from the world, formally structured by definitions and structured syntax. Second, we
5 examine the context of *RUP*'s writing. The book tempts readers into a Rorschach test, to project
6 their own interests and anxieties onto the subtle open-ended indefiniteness of FHK's work. To
7 help unpack this we explore what might have driven his thinking. Third, we explain how FHK's
8 sense of uncertainty and change was the foundation to his analysis. Rather than theorizing a
9 social system that satisfies needs and heads to equilibrium, FHK framed economic activity
10 ideographically at the individual level, revealing that individual's further, perhaps higher, needs
11 with no knowable finality (Knight 2006, 265, 319). Thus, what drives an individual's economic
12 activity lies obscured behind a veil of language that cannot capture it clearly, that can only
13 indicate some general outlines. FHK suspected that were the individual's desires, intentions, and
14 plans unveiled, certain for all to see, there would be no economic activity as we know it. Fourth,
15 we explore behind the veil to reveal something of the Knightian firm. While FHK claimed *RUP*
16 was "a fuller examination of the entrepreneur" what he wrote about entrepreneurship and the
17 theory of the firm seems obscured or erased from today's literatures (Boudreaux and Holcombe
18 1989; Knight 2006, xi; Foss and Klein 2012). The final section draws conclusions.

41 **Language as a social institution**

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44 Institutions are puzzles precisely because they address society's uncertainties. An institution's
45 language is doubly paradoxical because it is both an institution itself, an inter-individual system,
46 and the tool chosen for creating that institution. Despite its long history in the social sciences, the
47 term institution has been defined in many ways, the lack of consensus leading to confusion.

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49 Some use institution and rule synonymously (North 1990). Rules imply constraint but they also

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3 facilitate choices and actions otherwise not available (Hodgson 2006). Modifying Hodgson's
4 definition, we see institutions as established systems of social convention that structure social
5 choices and interactions. Such institutions need not be sanctioned by the state or backed by the
6 law, though the law is another social institution. In general, an institution is a durable social
7 convention that, lying between or above-and-beyond individuals, shapes their interactions. An
8 institution is not a theory in that term's conventional scientific meaning because institution
9 presumes social and individual change whose end cannot be foreseen. Thus, institutions conduce
10 a degree of social order while being open to change.

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22 Some classify institutions into types. Crawford and Ostrom's institutional grammar made
23 three sub-categories based on shared strategies, norms, and rules (Crawford and Ostrom 1995).
24 Given their grammar's origin in game theory, strategies describe the behaviour of a player in a
25 game where the appropriate winning choice is known (Ostrom 2005). Mathematical language
26 can capture the essence of such games. The players are allowed no uncertainties about their
27 intentions, anticipations, or understanding of the game's limits and context. At the other end of
28 the typology, the sanctions that characterize rules make them akin to laws (Schlüter and
29 Theesfeld 2010). Likewise, they are prescriptive and offer little room for humans to exercise
30 agency whatever uncertainties they experience – follow the law or pay the penalty. Norms are in
31 the middle, open but bounded by social pressures. They may constrain an individual's agency,
32 proscribing the limits within which action is acceptable without prohibiting choice entirely. In
33 social institutions, individuals have the freedom to interact voluntarily. Rather than being
34 completely bound, they engage their own agency in search of mutually satisfactory outcomes,
35 guided by their own interests and moral understandings, while also social and sympathetic to the
36 ethical challenge and specifics of the *WAIL*.

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3 Language use is key. For it to be useful there must be a degree of shared understanding
4 about what words and syntax mean, perhaps backed by social approval (Fairhurst and Putnam
5 2004; McCloskey 2010). Agreement cannot be perfect for natural language is imperfect. So long
6 as there is some consensus, language can be said to be an institution as a purely practical matter.
7 Inevitably natural language is untidy with many meanings, infelicities, and contradictions that
8 change over time. Change was a special notion for FHK. If forecastable it was the meaning of
9 change that FHK intended (Knight 2006, 313). Uncertainty could be expressed as or caused by
10 unforecastable change. Our inability to describe the future is the ultimate source of our
11 uncertainties. As a philosophy student FHK could not have avoided pondering the nature of
12 knowledge, information, and persuasion. Yet his remarks about language were little more than
13 glances at that huge body of thought (Knight 1997, 88, 93, 108, 26; 2006, xxxv, 261). He wrote:
14 “If anything in human life is clear it is that our whole intellectual life is built on the fact of
15 communication” (Knight 1997, 113). And: “The meanings which are conveyed, but not
16 expressed, by figurative language, cannot be taken apart and put together, and it is a misuse of
17 the term ‘analysis’ to apply it to our thought concerning them, just as all the rest of the technique
18 of natural science is misapplied in their sphere” (Knight 1997, 127).

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20 While FHK’s discussion of language was allusive, for John Searle, language was the
21 most fundamental philosophical topic and social institution. “(It) is fundamental in a very precise
22 sense: you can have a language without money, property, government, or marriage, but you
23 cannot have money, property, government, or marriage without language” (Searle 2005, 12).
24 Presupposing language “you have already presupposed institutions” and “instead of
25 presupposing language and analysing institutions, we have to analyse the role of language in the
26 constitution of institutions” (Searle 2005, 2). As an institution itself, an open-ended system of
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3 behaviour-shaping rules, meanings, and implications, natural language plays a constitutive role
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5 in the formation of all institutions. Language is not a “pre-existing institutional reality but is
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7 partly constitutive of that reality” (Searle 2005, 12).
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10 Where did language come from? For some this is the most fundamental of all
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12 philosophical questions. We have no traces to examine because, prior to language, its emergence
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14 cannot be recorded. Notwithstanding this paradox, there are several schools of thought. Julian
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16 Jaynes’s theory of the emergence of consciousness is particularly relevant. “[E]ach new stage of
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18 words literally created new perceptions and attentions, and such new perceptions and attentions
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20 resulted in important cultural changes” forging the path for us to evolve hunter-gatherer groups
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22 into agricultural communities (Jaynes 2000, 132). Thus, Jaynes too sees language as constitutive
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24 of social institutions.
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28 Given a measure of agreement on meanings, a language can help us know the *WAI* and
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30 our experiences, perhaps finding some generalities that can lead to the betterment of the human
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32 condition. Considering that we construct language in no determinable manner, whatever it
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34 captures about the *WAI* is contingent and so malleable. As we find it over-and-against us, we
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36 shape it as much as it might shape us. Thus, Hodgson notes Thorstein Veblen’s insight about the
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38 reciprocal relationship between institutions and agency (Hodgson 2001b, 2003b). Institutions act
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40 on and change our habits, providing the frameworks necessary for us to engage our agency.
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42 Through our interactions, especially in natural language, we reconstitute our habits of thought.
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44 Social norms and moral understandings are renegotiated, sometimes changing quickly
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46 (McCloskey 2010).
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51 FHK recognized “individual tastes were both malleable and socially formed” (Hodgson
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53 2001a, 73). Crucially, he observed economic activity did not simply satisfy human wants but can
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3 also create new wants (Knight 2006, 319). Much later he noted “wants and tastes come to the
4 individual chiefly through the processes of society”, that “the individual was largely a creation of
5 social action” (Knight 1956, 295; 1997, 38). Thus, FHK dismissed any neo-classical economics
6 based solely on *homo economicus*, the utility-maximizing individual. McCloskey suggests FHK
7 built his economics on *homo ludens*, the game-playing individual (McCloskey 2010, 297). Given
8 our attention to language, there is a strong case for *homo loquens* (Fry 1977). However, what
9 follows in this paper points more to *tool maker*. As for Searle, FHK implied languages as our
10 ultimate tools and the entrepreneur as *language maker*.

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22 Being familiar, language is easily taken for granted as we use it all the time. But what can
23 it mean to use language about any language that is not predefined and tautological, as logic and
24 mathematics might seem? Just as language has no knowable history, it has no non-tautological
25 yet definable content once we dismiss the possibility that our experiences of reality determine
26 our language (Abram 1997). While our everyday natural language helps us collaborate to engage
27 the *WAI*'s uncertainties, its un-given-ness shows it results entirely from our choices and agency.
28 Its content is open, changeable, under-defined. We animate it as we choose. Thus, language can
29 never be more than a veil we lay over our choices to speak about the ideas and experiences we
30 judge real. It can never be grounded beyond our imagining. We create the language, choosing its
31 content, perhaps presuming an ontology, perhaps an ideology, perhaps a faith.

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Institutional economics is distinct and unlike other institutional analysis because its
language is about economic content rather than, say, baseball or religion. At the end of his career
FHK surmised that were he able to start over, he would choose to study Max Weber's
institutional writings rather than economics (Emmett 2006, 109). Weber suggested six spheres of
life: religion, aesthetics, erotics, politics, intellectualism, and economics (Hart 2014; Weber

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3 1970, 331). Each sphere has its own character. While Weber argued money grounded the
4 language of the economic sphere, property seems more pertinent. There can be exchange without
5 money but not without property as institutionalized by property-rights. Within the language of
6 property and its exchange FHK argued against relativism by pointing to the likely universality of
7 individual (a) wants and (b) diminishing marginal utility.
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16 ***RUP's context***

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18 FHK arrived at Cornell as a Sage Fellow pursuing a PhD in philosophy. Transferred to the
19 economics department, he encountered a plurality of economic theories and methods (Dewey
20 1990; Emmett 1992, 2015; Hands 1997; Howey 1983; Johnson 1952). While *RUP* is most
21 frequently cited to support FHK's distinction between his definitions of risk and uncertainty, his
22 first target was actually profit (Knight 2006, xi). Profit arose from reciprocal relations between
23 those owning property or capital. FHK eventually got into an academic fight with the Austrians
24 over the meaning of capital (Emmett 2009). He saw entrepreneurship as venturing capital. But
25 why pick profit as a PhD topic? Alvin Johnson, then Professor of Economics at Cornell,
26 suggested it in the spring of 1914 (Knight 2006, xi). Johnson arrived at Cornell in 1913, taking
27 over the two economic theory courses in the school's PhD program. FHK took both. Johnson
28 later praised FHK as "the keenest study of theory I had ever had" (Johnson 1952, 227).
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44 FHK immersed himself in the literature on profit, reading into the German historical
45 school, the Austrians, late 19th/early 20th century American institutionalism, the neoclassicals, and
46 even "the so-called 'scientific' socialists" (Knight 2006, 27). Fluent in French and German, he
47 read many of the original texts. He found their discussions of profit inadequate, especially in
48 their treatments of change, leading him to centre his thinking on uncertainty (Knight 2006, 47).
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3 He concluded profit was more than a theoretical abstraction, it was as real as society, an integral
4 aspect of “securing and directing coöperative effort in a social group” (Knight 2006, x).

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7 Analysing it was also more than a modelling or maximizing problem. Profit’s impacts on
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10 “changes in the organization of want-satisfying activity” carried major ethical implications for
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12 individual freedom and agency (Knight 2006, ix). This broadening operationalized FHK’s
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14 lifelong interest in social ethics (Emmett 2015).

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17 FHK grew up in an Illinois household of strong faith. His father held rigid doctrinal
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19 views yet treated his children unpredictably (Dewey 1990; Emmett 2015; Howey 1983). FHK’s
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21 growing antipathy towards organized religion seemed rooted in his interactions with his father.
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23 His teenage reading of Robert Ingersoll’s agnostic writings endorsed his conclusion that there
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25 could be truth, justice, love, and mercy in a world that was without religious foundation. But
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27 without institutionalized religion, how could the adult FHK pursue his desire to do good in the
28
29 world? His inclination was to be an intellectual, to study mathematics and the natural sciences
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31 and use the knowledge obtained to improve society. However, FHK’s higher education options
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33 were limited because he lacked a high school degree. Thus, he enrolled in the college preparatory
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35 program at American University in 1905.
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40 After completing American’s program, FHK began taking college-level natural science
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42 courses. FHK also enrolled in Frederick D. Kershner’s German course. Kershner’s impact on
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44 FHK and his life would be profound. In 1908, Kershner became Milligan College’s new
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46 president, inviting FHK to join him there as faculty secretary. FHK accepted Kershner’s
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48 invitation. In addition to his responsibilities as faculty secretary, FHK taught shorthand and
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50 typing and assisted with the math and science preparatory classes. Despite a heavy workload, he
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52 continued his own studies. His transcript shows all his first-year courses counted toward the
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3 science degree's requirements but in his second year he shifted to modern and classical
4 languages. Kershner likely influenced FHK to study German under Kershner's private tutelage,
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6 deepening his knowledge of German literature and philosophy (Emmett 2015, 52).
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10 FHK also took Kershner's philosophy courses which introduced him to William James's
11 work. In a footnote on page 199 in *RUP*, FHK refers to himself as a "radical empiricist", a
12 doctrine James put forth in essays on pure experience published in 1904-1905. Note, there is no
13 evidence FHK read these essays which were not republished until 1912, so it is difficult to
14 pinpoint whence FHK drew the term radical empiricist, but James's influence appears
15 throughout FHK's work, especially in his use of the phrase "big, buzzing, booming confusion"
16 (Knight 1997, 103) which echoed James's memorable "great blooming, buzzing confusion"
17 (James 1950, 488).
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28 Coming from a similar farm and church background, Kershner provided FHK with a
29 strong model of how to be an intellectual and scholar. Kershner was not dogmatic. Rather, his
30 idea of education was to treat ethical questions as open for discussion from many viewpoints. He
31 shared FHK's scepticism of single-minded approaches to problems and challenged him "to
32 accept a pluralistic conception of truth", mentioning in a 1942 letter how James's writings had
33 freed him from his own monist and Absolutist views (Emmett 2015, 35). FHK's conversations
34 and correspondence with Kershner, both inside and outside the classroom, helped shape the
35 considerable scholar he would become.
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47 After graduating from Milligan in 1911, FHK began Bachelor of Science studies at the
48 University of Tennessee. He excelled in science and mathematics during his first year but
49 continued with German and French. For his second year, he dropped science and took history,
50 economics, philosophy, sociology, and modern languages to complete his BS degree. Then he
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3 decided on an MA degree in German rather than pursue a master's degree in the natural sciences.
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5 It is not clear why FHK switched focus so abruptly, but we can look to his thesis on the work of
6
7 Gerhardt Hauptmann for clues (Knight 1913).
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10 Hauptmann was awarded the 1912 Nobel Prize in Literature. FHK's essay examined
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12 Hauptmann's working class focused work for its idealistic tendency, a characteristic the prize
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14 then required. FHK's brief biographical notes on Hauptmann leaves one wondering whether he
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16 saw aspects of himself in his subject – an individual of considerable talent torn between
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18 disciplines. In Hauptmann's case literature and sculpture, in FHK's case philosophy and the
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20 natural sciences. Much of the essay summarizes Hauptmann's works and their various
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22 assessments by his critics. But in the sections where FHK offers his own critique, we get a look
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24 into FHK as he struggled with his own break from the natural sciences. We also see FHK's
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26 dissent from naïve faith in science and its monistic solutions to social problems. For example,
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28 FHK writes: "While awakening to the realization of the importance of scientific knowledge,
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30 thinking men have had their confidence shaken in the validity and the adequacy of the
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32 knowledge they already possess and even in the power of the human mind to reach truth that will
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34 be final and adequate to the solution of its problems" (Knight 1913, 65-6).
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40 FHK's interest in social problems grew during his time at American and Tennessee. By
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42 the time he reached Cornell, he had already rejected religious language and its monist claims. He
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44 turned to philosophy and the social sciences to broaden his ethical and moral enquiries. As he
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46 entered economics in 1914, he found it oriented in a different direction, its epistemology
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48 preferring positivist and monist claims about human behaviour and how to solve social issues
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50 with economic theory. *RUP* lays out a more pluralistic view. Thus, *RUP* is underappreciated in
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52 what it reveals about the relationship between Knightian uncertainty and the twin languages of
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3 his economics and how social betterment might be sought (Knight 2006, ix).
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6 7 **Knightian uncertainty** 8

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10 The original preface to *RUP* states his dissertation “was entirely rewritten under the editorial
11 supervision of J. M. Clark, of the University of Chicago” (Knight 2006, xi). There are notable
12 differences between FHK’s dissertation and *RUP*. First, in *RUP* he uses the metaphor of the
13 market as a game, but not in his dissertation (Emmett 1994, 277). While visiting Chicago to
14 work on his revisions, FHK was also part of an interdisciplinary group studying Thorstein
15 Veblen’s work (Neill 1972, 28). The metaphor of the market as a game is prominent in Veblen’s
16 *The Theory of Business Enterprise* (Veblen 1932). Second, FHK met C. O. Hardy and discussed
17 his work on his *Risk and Risk-Bearing* (Hardy 1923), which likely helped FHK extend his
18 treatment of risk and uncertainty in *RUP* (Knight 2006, xi).
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30 It is important to explore how and why FHK arrived at uncertainty as the foundation to
31 his theorizing. There are suggestions in *RUP*’s Chapter 1. He saw the characteristic procedure of
32 physical science as “impracticable to the study of industrial society” (Knight 2006, 3). That
33 method relies on “the fact that in large groups of problem situations certain elements are
34 common and are not merely present in each single case” (Knight 2006, 4). From his own
35 experience as a night operator in his Uncle Levin’s telephone exchange business, FHK knew
36 business activity is often idiosyncratic, that outcomes arose as much from luck, habit, and
37 judgment as from logical analyses (Emmett 2015). Thus, while the analytical method can
38 provide a useful starting point for the investigation of economic questions, its application to real
39 life is fraught due to every real situation’s deviation from the ideal.
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53 FHK sought a “middle way” that incorporated the facts collected to characterize the
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3 specific situation (Knight 2006, 6). He argued both deduction and induction have their place,
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5 early evidence of his methodological pluralism (Hands 1997). There were also echoes of J.N.
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7 Keynes's *The Scope and Method of Political Economy*, which argued every useful economics
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9 required three complementary languages: (a) rigorous theorizing, (b) knowledge of the context's
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11 political economy and history, and (c) attention to the practical arts of economic activity (Keynes
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13 2011; Knight 2006, 10n1; Moore 2003). FHK's conversations with Clark may have influenced
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15 his pluralistic approach. Clark's own pluralism, which Ramson described as a "middle way",
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17 combined "the rigor of traditional economic analysis with his 'institutionalist' attitude" (Fiorito
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19 2001, 1; Ramson 1977, 467).
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24 With his pluralism ready to hand, FHK undertook a thorough review of the literature. It
25
26 led him to conclude neither static nor dynamic notions of profit could explain its place in a
27
28 dynamic economy. FHK criticized J. B. Clark's dynamic theory for having "followed everyday
29
30 speech into the fallacy of treating risk as a substantially homogeneous category" (Knight 2006,
31
32 48). In *RUP*'s Part Two FHK examined "the conditions and workings of a perfectly competitive
33
34 society" and the assumption of "the possession of accurate and certain knowledge of the whole
35
36 economic situation by all the competitors" (Knight 2006, 48). Here FHK's approach was
37
38 conventional, that of decreasing abstraction or successive approximation, which is often used to
39
40 construct models of equilibrium systems. Starting with models built using simple assumptions,
41
42 those assumptions are gradually refined so that the models become more representative of real
43
44 economic conditions (Hart 2002). In Part Three FHK hoped to model the facts of ordinary life,
45
46 echoing Alfred Marshall's definition of economics. He examined how reality differs from his
47
48 model to determine the direction in which it "must be supplemented by detailed, empirical data
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50 before completely applicable conclusions can be drawn" (Knight 2006, 174). With this, FHK
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3 sketched how to save the phenomena of perfect competition, while conceding it is impossible
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5 once the assumption of perfect knowledge is relaxed.
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8 Clearly, there was a sharp break in *RUP*'s language as it progressed from its first two
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10 parts into its third. Several generations of students at the London School of Economics and at
11
12 Chicago focused their attention on Part 2 and its discussion of the traditional static and dynamic
13
14 theories of exchange, specialization, and valuation, seeming to avoid engaging Part 3, especially
15
16 FHK's discussion of the role of the entrepreneur (Emmett 2020). Today's simplistic view is that
17
18 Knightian uncertainty is the absence of computable data. It is easy to understand why this sells in
19
20 an era where positivist thinking dominates. Within the positivist view, FHK separated risk into
21
22 three different types of probability situations: *a priori* probability, statistical probability, and
23
24 estimates. But Knightian uncertainty is different, deeper, and pluralistic. It rests on our inability
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26 to develop analogies when presented with situations that are unfamiliar, which are dynamic in
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28 ways we cannot forecast. Thus, lacking any association to prior phenomena, we can only judge
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30 what might happen when we act.
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36 Knightian uncertainty indicates the difference between an economist's presumption of the
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38 maximizing individual acting in a world where all is known versus real people engaged in
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40 satisfying and creating changeable wants. Herein lies FHK's pluralism. General assumptions
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42 about human behaviour can be used as a starting point in investigations, validating the language
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44 of Part 2. But economic activity in the *WAIH* involves an individual's motivations and choice of
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46 ends. So, economics is concerned with understanding people's intentionality and the judgments
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48 they make *en route* to exercising their agency in the face of the uncertainties they experience.
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50 Inevitably an actor's judgments complement all rigorous reasoning from generalities.
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54 At the beginning of Chapter VII, FHK noted the assumption of perfect knowledge imbues
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3 “practical omniscience” to “every member of the competitive system” (Knight 2006, 197). But
4 omniscience eliminates agency and intentionality as well as the need for language. FHK explored
5 this paradox with a wide-ranging analysis of the relationship between knowledge and behaviour,
6 foreshadowing his later objections to behaviourism in economics (Asso and Fiorito 2001). The
7 core of his objection is that behaviourism excises introspection from the analysis, essentially
8 rejecting consciousness, perhaps because it cannot be observed as an objective fact.
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11 While FHK’s arguments against the application of behaviourism were still in a formative
12 stage in *RUP*, James’s views are echoed throughout Chapter VII. In the footnote on page 199,
13 FHK declared himself “agnostic on all questions beyond the fairly immediate facts of
14 experience” and that he saw the relationship between knowledge and behaviour as a more-or-less
15 “functional or pragmatic view” (Knight 2006, 199n1), clear allusions to James. He went on: “We
16 live only by knowing *something* about the future; while the problems of life, or of conduct at
17 least, arise from the fact that we know so little” (Knight 2006, 199).
18

19
20 Why do we know so little? FHK delved into a discussion of consciousness, offering a
21 brief refutation of the helpless spectator perspective popular in the late-19th and early-20th
22 century, which posits consciousness appeared as a *deus ex machina* when some under-specified
23 nervous-system complexity was reached (Jaynes 2000, 10). As helpless, our actions follow a
24 stimulus-response pattern. James found this inadequate, as did FHK (Jaynes 2000, 11). While
25 conceding our nervous system helps us respond to stimuli, FHK stated that “wherever we find
26 complicated adaptations we find consciousness, or at least are compelled to infer it” (Knight
27 2006, 201). In other words, consciousness is implied whenever action is known to be
28 problematic. Choosing presumes introspection, even if only felt when doing something habitual,
29 when sedimented as habit.
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3 FHK argued that when a situation requires intentional or agentic adaptation, rather than
4 direct reaction to past stimuli, we generate an “‘image’ of a future state of affairs” and that “the
5 rôle of consciousness is to give the organism this ‘knowledge’ of the future” (Knight 2006, 201).
6
7 The implication being when inference is necessary the image is always under construction,
8 shaped by social interchange (Asso and Fiorito 2001). FHK further noted that when we interact
9
10 with other people, especially through speech, we attribute them with a similar consciousness to
11
12 our own. Thus, our image-making capability is more real than the images or languages we
13
14 generate to lay over and make sense of our experiences. Our presumption of others’
15
16 consciousness enables us to discuss what we perceive, to persuade and use such inferences to
17
18 help us change social situations and generate a shared future. These inferences are the product of
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20 “more an imaginative construct than a direct communication from the nerve terminal organs”
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22 (Knight 2006, 202).
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31 FHK saw uncertainty and error as key evidence of human consciousness (McKinney
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33 1977, 1444). Inferences can be wrong because they are forward-looking and lack automatic
34
35 mechanical accuracy. FHK argued inference drawing rests on analogy (Knight 2006, 204). He
36
37 wrote: “We know the absent from the present, the future from the now, by assuming that
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39 connections or associations among phenomena which have been valid will be so” (Knight 2006,
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41 204). People try to classify “things” to deal with the *WAI* and our limited ability to perceive it
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43 (Knight 2006, 205). Classification is one shortcut, allowing us to draw inferences and act in most
44
45 situations without having to engage in deep introspection. FHK noted: “Marshall remarks that
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47 the business manager’s decisions are guided by ‘trained instinct’ rather than knowledge” (Knight
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49 2006, 211n1).
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54 In *RUP*, FHK was not as explicit about the reciprocal relationship of language and
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3 consciousness as he was later. Nonetheless, his discussion in Part 3 of *RUP* foreshadowed his
4
5 later arguments about the logic and purposiveness of language and its place in the study of
6
7 human conduct. Making language helps us agree on the terms of economic exchange. “The
8
9 structure of our thinking is notoriously that of our language, our medium of communication”
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11 (Knight 1997, 113). But because we are actively involved in generating all language, every
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13 language is more than a communication tool, it is also an organ of perception, presenting the
14
15 analogies we use to classify things (Jaynes 2000). Analogy, or metaphor, is the constitutive
16
17 ground of language, enabling us to stretch language to many circumstances (Lakoff and Johnson
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19 1980). We analogize imaginatively to create new realities, to perceive more of the *WAIL* as we
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21 try to change it.
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26 But what if we cannot find an analogy? This circumstance is the very core of Knightian
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28 uncertainty. As noted already, Knightian uncertainty is the absence of useful language. Because
29
30 our ‘knowings’ are varied, there are several types of ‘knowledge-absence’. The most familiar is
31
32 *ignorance* of what we presume knowable and computable. For most who cite *RUP*, this
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34 interpretation dominates. But other modes of Knightian uncertainty have been elaborated upon
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36 (Spender 1989, 43). One reflects the unavoidable fragmentation or *incommensurability* of our
37
38 knowledge, that while we know many things, what we know cannot be fit together into a
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40 totalizing model of the *WAIL*. Given our understanding is based on instances of experience, thus
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42 always imperfect, bounded and plural, we are always uncertain about which of our views should
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44 most shape our response to any real situation.
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49 A third mode of Knightian uncertainty is *indeterminacy*. While *incommensurability*
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51 seems internal to our knowledge, *indeterminacy* seems external, arising in our interactions with
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53 others, reflecting our social nature. It is not possible to know another’s mind or their intentions
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3 (Spender 1989, 2014; White 2002). Other individuals' goals may diverge from and compete with
4 our own. *Indeterminacy* drives FHK's notion of game and Martin Shubik's game theory (Knight
5 2006, 53; Shubik 1954). A further mode of Knightian uncertainty is *inconstancy*, the ubiquity of
6 change. Early in *RUP*, FHK notes individuals are inconstant, their wants leading on to higher
7 wants as prior wants are satisfied. *Inconstancy* is not failure to be constant, rather it is an aspect
8 of the fluidity, boundedness, and plurality of human consciousness, for the future cannot be
9 forecast nor the present fully known. Ultimately change and our inability to know the future
10 drives all other modes of Knightian uncertainty. Rather than presume that we are rational and
11 inhabit a logically constructed knowable universe, positivist assumptions, FHK made open-
12 ended imagining under uncertainty the basis of his epistemology. In consequence, pluralism
13 dominates. Science becomes the imagination's tool, not the other way around.

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But language-making sets the analysis's limits. The most severe mode of Knightian uncertainty arises from our language's *irrelevance* to the phenomena of interest. All knowledge is held and conveyed in a language and so is contingent on that language's practices, limits, and possibilities. Language construction and choice is central to FHK's conception of economic practice and to illuminating the economic sphere of life. *Irrelevance* rather than bounded rationality bounds what we deem analysable. We must name it before analysing it. Language enables us to bring reason and imagination to bridging the various modes of uncertainty experienced as we reason, communicate, debate, teach, and learn from each other. It delimits our access to use-value, just as instructions can raise the use-value of a piece of equipment. Our choice of language sets boundaries between what can be said and what cannot and is thereby excised. The participant's language is the mode of knowing most essential to collaboration and creating new economic value. Absent relevant language neither *ignorance*, nor *indeterminacy*,

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3 nor *incommensurability*, nor *inconstancy* can be addressed. The essence of entrepreneurship is
4 the creation of new language judged relevant to new practice. Hence, entrepreneurship is
5 language art. Diagnosis, framing with language judged relevant to practice, is the first stage of
6 imaginative response to uncertainties experienced that (a) impede progress towards chosen goals
7 or (b) challenge us to think anew.
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14 The entrepreneurship literature tends to fetishize the imaginative or innovative individual,
15 ignoring FHK's emphasis on interaction and collaboration. The art of economic language-
16 making must deal with the pluralism and incommensurability of the entrepreneur's various
17 knowings. It must also deal with the pluralisms and *incommensurabilities* of inter-agent and
18 inter-institutional collaboration. Ronald Coase illustrated entrepreneurial language-making
19 between the railway operator and the farmer in his *Problem of Social Cost* paper (Coase 1960).
20 As Deirdre McCloskey pointed out, economics is a field of rhetoric, of persuasion (McCloskey
21 1998). This is not only a view of academic economists' practice, of their trying to persuade each
22 other. It is fundamental to the structure, conduct, and performance of the economic sphere.
23 Sellers persuade buyers. Owners persuade regulators and managers to persuade employees to
24 persuade suppliers and customers in the wonderfully roundabout ways of the real economy.
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41 **Knight's theory of the firm**

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44 When FHK set out to write his dissertation, his focus was on the problem of profit, not the theory
45 of the firm. FHK's personal experience with private firms was mainly limited to his work in his
46 Uncle Levin's telephone exchange, but early in *RUP* he noted the development of the modern
47 business organization was the greatest change in his time, "especially of the voluntary, free
48 exchange type" (Knight 2006, 56). Thus, despite his lack of first-hand experience, FHK offered a
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3 new treatment of entrepreneurship, and thus of the firm, in *RUP*'s Chapters IX and X. What
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5 FHK offered in these chapters is our focus in this section.
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8 When the future cannot be foreseen because it is indeterminate, conditional on today's
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10 practice, the processes inside the firm and the activities of the entrepreneur are no longer
11
12 explainable in terms of minimizing production costs or overseeing production teams toward
13
14 given ends. The entrepreneur **perforce** deploys imagination and judgement to meet uncertainty.
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16 Toward this end, FHK focused on two practices: (a) consolidation and (b) specialization (Knight
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18 2006, 239). Consolidation forms production for the market rather than individual consumers,
19
20 cancelling out errors in judgment about what to produce, how much and at what price (Knight
21
22 2006, 244). Specialization puts bearing uncertainty into the hands of entrepreneurs who may be
23
24 better equipped than others to exercise judgment: "the confident and venturesome 'assume the
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26 risk' and 'insure' the doubtful and timid by guaranteeing to the latter a specified income in return
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28 for an assignment of the actual results" (Knight 2006, 269-70).
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33 Specialization and consolidation are also relevant to the firm's internal organization, not
34
35 just its emergence. The entrepreneur makes judgments about the ability of others to use their own
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37 judgment in the face of uncertainty. Specialization provides a basis for grouping decisions of a
38
39 similar nature, cancelling out errors in judgment over a repeated number of decisions (Knight
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41 2006, 256, 8). But, crucial to FHK's theory of the firm, the entrepreneur organizes a cascade of
42
43 judgments to meet the various uncertainties arising within the firm (Knight 2006, 294-7). The
44
45 most serious test of the entrepreneur's own judgment is judging the judging abilities of others to
46
47 whom responsibility is delegated (Knight 2006, 309, 11). The principles of specialization and
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49 consolidation enable firm growth. "In so far as a single business man, by borrowing capital or
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51 otherwise, can extend the scope of his exercise of judgment over a greater number of decisions
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3 or estimates, there is a greater probability that bad guesses will be offset by good ones and that a
4 degree of constancy and dependability is the total result will be achieved” (Knight 2006, 252).

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7 The firm is shaped and grows. Its growth limited only by the ability of the entrepreneur to
8 organize the cascade of judgments (Knight 2006, 253).

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12 Conceiving of firms, and the role entrepreneurs play within them, as places where
13 uncertainty is met through interlocking judgments frames firms as collective social institutions of
14 heterogenous judgers: a community of institutionalized individuals whose norms, beliefs, and
15 trust shape their practice toward the firm’s institutional ends (Knight 2013, 19). Thus,
16 anticipating Coase’s use of D. H. Robertson’s metaphor, the Knightian entrepreneur creates an
17 island of judgement or value coherence in an ocean of Knightian uncertainty (Coase 1937, 388).

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26 Note this is not commanded conformance to an overall plan. The Knightian firm is one of
27 democratic capitalism’s particular and essential institutions, wherein meeting uncertainty is its
28 nature and the reason for its existence. The language used is its most analysable characteristic,
29 even if sometimes sedimented into organizational culture or habitual business model. At each
30 stage or level, specialists frame their local uncertainties and throw in their judgment to resolve
31 them and so urge economic activity onwards. FHK’s entrepreneurs observe, imagine, create, and
32 deploy persuasive language to harness other individuals’ imaginative capabilities by
33 institutionalizing the participants. They put aside their alternative identities as, for instance,
34 private citizens or family members. The firm’s language transforms them into the firm’s agents.

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47 The Knightian firm is a social, psychological, and discursive apparatus to bring
48 the employees’ imaginative capacities into fruitful conjunction with the firm’s other resources, so
49 transforming them into *services* (Knight 2006, 116; Penrose 1959, 25). The participating
50 individuals share the idiosyncratic natural language that bounds, orients, and articulates the
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3 firm's economic activities. It orients their uncertainty judging as well as directing their data
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5 collection and reasoning. The cascade of judging reflects the division of uncertainties and
6
7 corresponding specialisms. Metaphorically, we can see two systems, (a) the firm's division of its
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9 uncertainties and (b) its division of labour and reasoning. While being incommensurate, the latter
10
11 being command-able, they can complement each other. In (a) the individuals comprising the firm
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13 are not subordinating themselves to a controlling script. Rather (a) creates a system of freedoms
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15 bounded by a system of constraints.
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19 Contra the notion that firms are systems of control that reduce individuals to mere
20
21 automata, the system of economic uncertainties shows that firms can create fulfilling work by
22
23 separating the provision of capital from doing imaginative work. It also follows that interactions
24
25 (transactions) within a firm are utterly unlike those in markets, precisely because a principal's
26
27 capital risk and imaginative labours are not separated (Spender 2018; Veblen 1932, 156). To
28
29 meet the uncertainties the firm engages in the pursuit of profit, its individuals cannot be
30
31 institutionalized into conforming to an organizational architecture that denies or erases their
32
33 agency. They must retain it. This dependence on the *generative relationships* between agentic
34
35 individuals distinguishes the workings of the Knightian firm from the speculations of
36
37 organization theorists who ignore Knightian uncertainty (Lane et al. 1996; Hodgson 2003a;
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39 Waldo 1978). Paradoxically, once again, those pursuing rigorous theories of firms cannot meet
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41 Coase's challenge to explain why firms exist when market arrangements are available.
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47 While *RUP* highlights the role of the entrepreneur in institutionalizing other individuals
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49 into their firm and touches on the activities of persuasion with relation to parties outside of the
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51 firm (Knight 2006, 261), FHK paid surprisingly little attention to the rhetorical practices of the
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53 entrepreneur. Yet he saw a language specific to the firm was essential to stabilizing its cascade of
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3 judgment. But clearly FHK opened the door to looking at the private firm as a language-based
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5 social institution of central significance to our democracy. After returning to Chicago in the late-
6
7 1920s, his attention went elsewhere (Knight 2013; Emmett and Biddle 2011). He did not step
8
9 through the door he had opened – as Coase and Penrose did later, building on his insights (Pattit,
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11 Pattit, and Spender 2020). Others can pass through following Lane et al.'s (1996) and Hodgson's
12
13 (2003a) focus on generative relationships as key to the firm's dynamic processes. In their
14
15 detailed case studies, Lane et al. (1996) show generative relationships are working mechanisms,
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17 meeting uncertainty by enabling dialogue and exchange, creating new realities. Similarly, we can
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19 engage corporate culture more directly as the firm's secret language for “reconstituting the goals
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21 and capabilities of the workforce” (Hodgson 2003a, 170).
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28 **Concluding remarks**

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30 FHK wrote a fresh preface for each new impression of *RUP*. These prefaces provided important
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32 insights into how FHK re-thought his own work. Each revealed an important shift but no
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34 fundamental change. He certainly made less of uncertainty, more overtly adopting the Weberian
35
36 method of comparing ideal types (Emmett 2019). In 1957, he noted his “theory of enterprise and
37
38 profit would not be essentially changed” and would not require a “more elaborate theory of
39
40 uncertainty” (Knight 2006, lxii). Note *RUP* was FHK's only book, though his 1958 Jefferson
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42 Center lectures were transcribed and published in 1960 (Knight 1960), illustrating his full
43
44 transition from economics into social philosophy. Clearly, over the course of his career FHK
45
46 moved on from the questions of his youth to explore new topics and vistas of greater interest. He
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48 worked until his early 80s and we have some records of his journey. But his diminishing
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50 attention to uncertainty did not invalidate his initial insights, for he had already made Knightian
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3 uncertainty the foundation of his analysis of the firm and, likewise, of democratic capitalism's
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5 other economic institutions.
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8 Knightian uncertainty sprang from his notion of change. It arose in every mode of
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10 knowing. Each mode of knowing had its corresponding mode of uncertainty or not-knowing.
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12 Many pluralists saw change and uncertainty in both internal and external domains of an agent's
13
14 knowing, setting up the familiar contrast of positivist and interpretive methods. But, crucially,
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16 FHK saw economics as the result of change in a property-based reciprocal or interactive social
17
18 world. Therein lay economic value-creation. Thus, the search for the truth of the economic
19
20 sphere would be never ending (Knight 1940). In our partially grasped dynamic circumstances,
21
22 useful analysis called for a plurality of incommensurate methods. These would collide in the
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24 paradoxes that fascinated him throughout his life. Of course, this view contrasts against that
25
26 dominant today, that imagining based on certainty can be methodologically productive and that a
27
28 real economy's motion would start from exogenous shocks and end in equilibrium.
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33 Despite FHK's philosophical and epistemological otherness, *RUP* remains a major
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35 component of our economic canon. Entrepreneurship as art of developing language that both
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37 facilitates and captures the fruits of reciprocal economic activity gives FHK's *oeuvre* an inner
38
39 dynamism that sets it apart from the bulk of institutionalism that is based on rules, norms, and
40
41 habits. FHK's attention to uncertainty can be interpreted in several ways. There are no givens.
42
43 Unforecastable change is everywhere. The analyst chooses their position. We set out from a
44
45 model of the individual that defines institutions as constraints to thought and behaviour. Others
46
47 emphasize social norms that constrain interaction, as shifting the focus to what lies beyond the
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49 individual. FHK began with change, examinable though the creation and re-creation of the
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51 institutions we develop to deal with uncertainty. In the economic sphere, collaboration both
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3 drives and is a response to change as it raises economic use-value. Redistribution is one means to
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5 raise aggregate value, but it pales in comparison with entrepreneurship as the process of raising
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7 the use-value of specific assets.
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10 FHK's insights help us to think differently about the theory of the firm as democratic
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12 capitalism's foundational art-form. The private-sector firm can be understood as a unique
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14 domain or island of constrained knowing and uncertainty-resolving practice that is generated and
15
16 held together by the entrepreneur's language-making and rhetorical skills. Thereby employees
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18 and others are institutionalized into the firm's unique norms, rules, and ethic, made into
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20 employees, the first of the firm's products, the new resources that must be created before the firm
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22 can provide any services, thereby transforming the entrepreneurial idea into real-world economic
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24 activity.
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29 1. In line with this notion is a quote often attributed to FHK: "You cannot be certain about uncertainty."

30 For example, Pathak, Dewangan, and Mohanty (2021) use this quote, citing *RUP* as its source, albeit
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32 without a page number. Nonetheless, the quote is likely apocryphal, as it does not appear in *RUP* or
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34 any of FHK's other published works.
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