

3.0 - FOUNDATIONS OF KNOWLEDGE

The previous chapter indicated that Nonaka & Takeuchi's tacit/explicit knowledges seem to confuse the external (ownership) dimension of knowledge with its internal (structural) dimension: and that sociologists, who are often strongly anti-capitalist and anti-scientific, assert that knowledge is inherently ideological (yet privilege pluralism over critique) - two very different sides of knowledge. And how do Chapter One's *certain knowledge* and *uncertain knowledge* fit into this same picture?

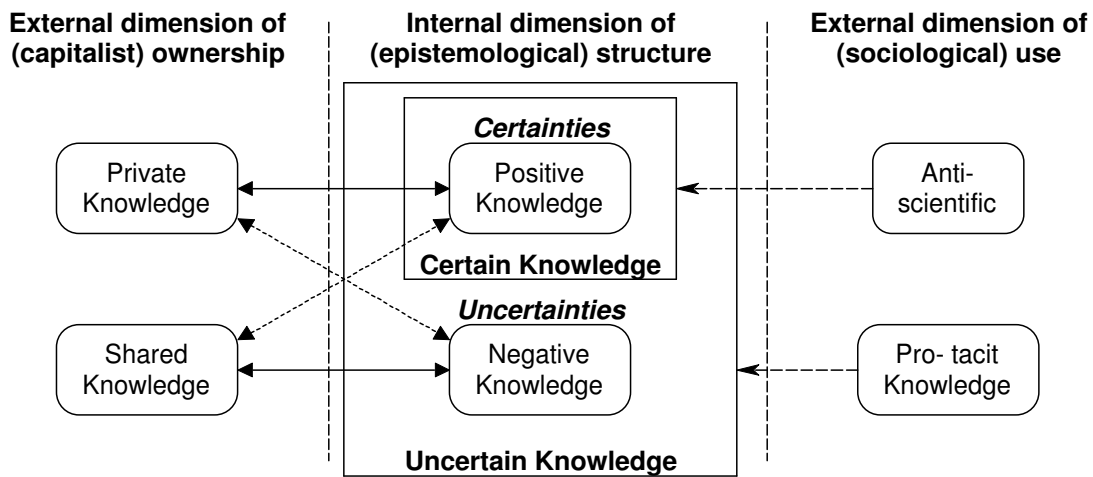


Figure 3a: Placing knowledge within its ownership/use contexts

Firstly, this chapter proposes that the internal dimension of knowledge comprises ‘**certainties**’ (positive knowledges) and ‘**uncertainties**’ (negative knowledges) - and that ‘**certain knowledge**’ includes only certainties, but ‘**uncertain knowledge**’ includes both certainties **and** uncertainties. Secondly, it proposes specific certainties and “Keatsian uncertainties” (based on tense), which connect into **networks**. Here, any given ideology defines a set of rules about which kinds of knowledge are acceptable or taboo, and so yields a distinct “knowledge topology” - and hence **The Network Is The Knowledge**.

3.1

LITERATURE REVIEW - UNCERTAINTY

“It is a world of change in which we live and a world of uncertainty. We live only by knowing something about the future, while the problems of life arise from the fact that we know so little. This is as true of business as of other spheres of activity.” Frank Knight (1921)¹

North (1990)² argues that businesses primarily deal with *uncertainty*: but note that this is quite different from *risk*. Following Frank Knight, risk is anything you can buy insurance for - the rest is uncertainty. In a management-centred world, the primary challenge is *decision-making under uncertainty* (one might call this ‘resolving decisional uncertainty’), and so numerous business disciplines have emerged³ devoted to assist this process through the use of predictive techniques. These typically apply statistical tools (like Bayes’ Theorem) to different future ‘paths’ with pre-assessed probabilities to assess the ‘best’ path to take. However, once probabilities have been assigned (however arbitrarily) to a path, the calculation becomes an exercise based on *risk* rather than on *uncertainty* (which ends up embedded in the presumed probabilities).

Essentially, this follows the persistent strand of thought running parallel to the economics mainstream which considers possibilistic uncertainty (or “Knightian uncertainty”) - the inability of forecasters to assign meaningful probabilities to the unexpected. Frank Knight, Gunnar Myrdal, George Shackle and (most recently) Brian Loasby all fall within this tradition, but perhaps its best-known proponent was Keynes (1937), who stressed the “utter doubt, precariousness, hope and fear” (p.6)⁴ of human activity. For him, uncertainty referred to those things (like “the rate of interest twenty years hence”) for which “there is no scientific basis on which to form any calculable probability whatsoever”. (p.2)

¹ **Knight, Frank H.** (1921) “Risk, Uncertainty, and Profit” Hart, Schaffner & Marx; Houghton Mifflin Company. Library of Economics and Liberty. <http://www.econlib.org/library/Knight/knRUP6.html>

² **North, D.** (1990) “Institutions, Institutional Change and Economic Performance”, Cambridge UP, NY. Quoted in Spender (2002).

³ Like Business Decision Theory, Multicriteria Decision Analysis, Business Forecasting, etc.

⁴ **Keynes, John Maynard** (1937) “The General Theory of Employment” *The Quarterly Journal of Economics*, Cambridge, Mass.: Harvard University Press. Copyright, 1937, by the resident and Fellows of Harvard College, vol. 51, pp. 212-223.

<http://www.eco.utexas.edu/Homepages/Faculty/Cleaver/368keynesonkeynes.pdf>

Starting with Johannes Kepler's study of 'observational error', many (typically scientific) authors have also considered the issue of *informational uncertainty* (the uncertainty implicitly embedded within any given piece of data). Plewe (2002)⁵ summarises Longley *et al*'s (2001) view of uncertainty as "the acknowledgement and consideration of imperfections in information" [p.432], where "uncertainty is a human-induced phenomenon" [p.433], quite distinct from *imprecision* (following Motro (1997)⁶ and Smets (1997)⁷) [p.436].

The preceding literatures all seem to rely on different types of uncertainty, echoing Spender (2002)⁸, who asserts that the types of knowledge we recognize are directly related to the types of uncertainty we admit (echoing Spender (1989:42)⁹), and posits *uncertainty* as a kind of *knowledge deficiency*.¹⁰ Spender has several times discussed 'pluralist epistemology', particular Spender (1998)¹¹: "*whenever we adopt a pluralist epistemology, meaning one with more than one type of knowledge, we imply a new theory of the firm that addresses the integration of varied types of knowledge.*" (2002:4) Centrally, Spender (2002:7) points to three distinct (yet "conceptually intertwined") types of uncertainty - *ignorance* (of those past events which have "yet to be uncovered"), *indeterminacy* (of the unknown future actions of others, as in Game Theory), and suggests that *incommensurability* arises from the differences between *ignorance* and

⁵ **Plewe, Brandon** (2002) "The Nature of Uncertainty in Historical Geographic Information", *Transactions in GIS*, 2002, 6(4), pp.431-456. http://dusk.geo.orst.edu/buffgis/TGIS_uncertainty.pdf

⁶ **Motro, A.** (1997) "Sources of uncertainty: Imprecision and inconsistency in information systems" In: Motro, A. & Smets, P. (Eds.) *Uncertainty Management in Information Systems*. Dordrecht, Kluwer pp.9-34

⁷ **Smets, P.** (1997) "Imperfect Information: Imprecision and uncertainty" In: Motro, A. & Smets, P. (Eds.) *Uncertainty Management in Information Systems*. Dordrecht, Kluwer. pp.225-254.

⁸ **Spender, J.-C.** (2002) "Exploring uncertainty and emotion in the knowledge-based theory of the firm".

⁹ **Spender, J.-C.** (1989) "Industry Recipes: The nature and sources of managerial judgement". Oxford, Blackwell.

¹⁰ See also: **Homer-Dixon, Thomas** (2000) "The Ingenuity Gap: How can we solve the problems of the future?" Jonathan Cape.

¹¹ **Spender, J.-C.** (1998) "Pluralist Epistemology and the Knowledge-Based Theory of the Firm": this appeared in a thematic edition of "Organization" journal considering incommensurability in Organisation Theory

indeterminacy:¹² and criticises (1998:236) the positivist scientific approach for trying to reduce all problems of uncertainty to problems of *ignorance*.

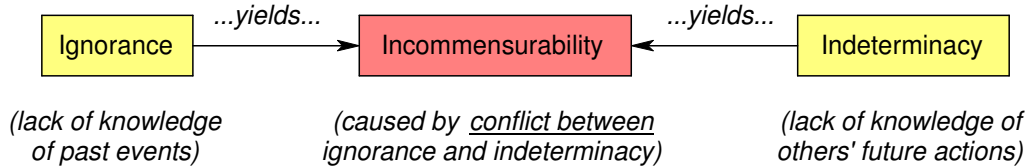


Figure 3b: Spender's (2002) three types of uncertainty

For the sake of clarity, I use '**incommensurability**' here specifically to denote the problem of comparing, measuring, or valuing different types of knowledge within a single pluralist epistemology; while I also use '**incompatibility**' to denote the problem of comparing between different epistemologies. Communities typically tackle *incompatibility* by forcing members to share a single mindset (ie, a single ideology) and jargon: and sometimes try to tackle *incommensurability* by privileging one type of knowledge over all others (to enforce a 'common currency').

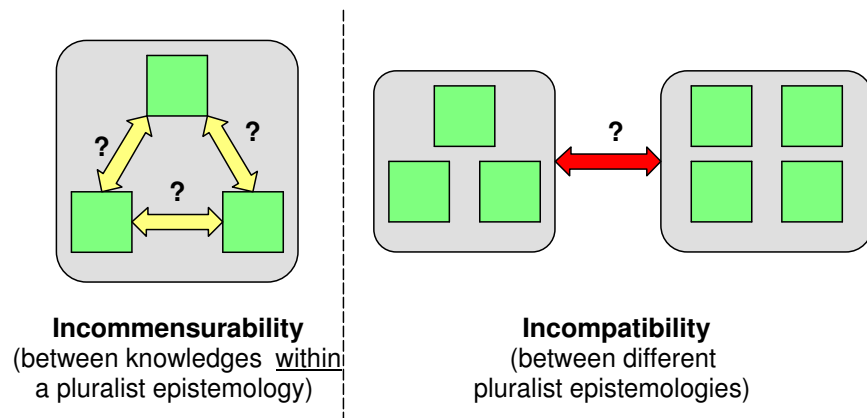


Figure 3c: the difference between 'incommensurability' and 'incompatibility'

Yet I strongly argue that incommensurability - first properly flagged by Thomas Kuhn's (1962) "The Structure of Scientific Revolutions"¹³ - is less a type of *negative knowledge*

¹² Though note that **Spender** (2003) also briefly mentions 'irrelevance' (referring back to Spender (1989), page 43) as a possible type of uncertainty, before discarding it.

¹³ **Kuhn, Thomas** (1962) "The Structure of Scientific Revolutions", University of Chicago Press.

or *uncertainty* than a name for the paradoxical state one finds oneself in once one (a) admits multiple knowledges yet (b) denies that those knowledges can be converted between. In short, incommensurability is **the hole dug by pluralist epistemologies**.

However, I argue that nearly all such epistemologies consider only *certainties* (positive knowledges) as the base type of knowledge, perhaps because of an inbuilt positivistic bias stretching right back to the Greek philosophers - and hence exclude *uncertainties* (negative knowledges) as an equally valid base type of knowledge. I argued earlier that Nonaka & Takeuchi's (1995) tacit/explicit typology implicitly assumed both an external and internal epistemological distinction: here I argue that foundational epistemologies should include both **certainties** and **uncertainties** as structural elements.

Here, the 'first wisdom' is that **uncertainty is negative knowledge**, and hence must be included in pluralist epistemologies (or else they can only represent positivistic conceptions of knowledge). Further, uncertainty comes in many flavours - such as decisional uncertainty, possibilistic (Knightian) uncertainty, informational uncertainty, imprecision, and Spender's *ignorance* and *indeterminacy* - which we shall explore (and extend) in the second half of this chapter.

3.2

THESIS, ANTITHESIS... SYNTHESIS?

One famous account for the ongoing historical revolution of ideas is the "Hegelian triad", as appropriated by Marx. Though Hegel himself didn't state it in its modern form, it is now generally presented like this: an (orthodox) **thesis** arises, which is then challenged by a (contrarian) **antithesis** - before the two (somehow) merge to form a (negotiated) **synthesis**.

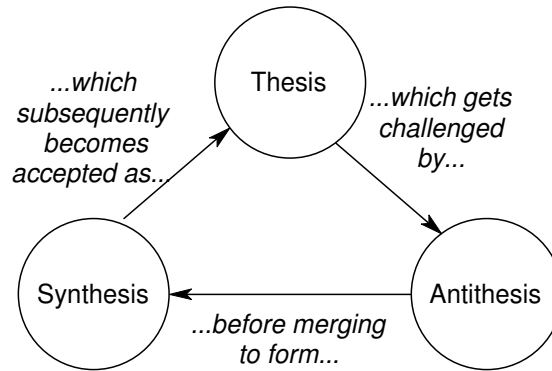


Figure 3d: The Hegelian triad

However, this only indicates the **temporal sequence** of events (ie, the *flow of time*)¹⁴: the *flow of knowledge* implicit in Hegel's notion looks more like this:-

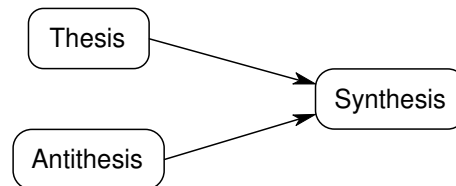


Figure 3e: The flow of knowledges implicit in the Hegelian triad

However, in the terminology adopted within this paper, the knowledges implicit in Hegel's ideas are all *positive knowledges*, or *certainties*. This points to Hegel's underlying epistemology's being aligned with the same strand of scientific thought later expressed in *positivism*:¹⁵ and it should thus be clear why the structure of Hegel's thinking appealed so much to Marx, that great appropriator of the scientific method.

One key problem with both Hegel's view and positivism is that both bracket out any concept of knowledge being *faulty* or *uncertain* - both rely on individual items of knowledge (whether paradigms or observations) being like **atoms of certainty**. In fact, reinstating *uncertainty* into Hegel's implicit flow of knowledge makes the difference

¹⁴ This is perhaps unsurprising, given Hegel's particular focus on the history of philosophy.

¹⁵ Not August Comte's variety of positivism, but rather the logical positivism of the early 20th century. Edmund Leach (1966) described it as "...the view that serious scientific inquiry should not search for ultimate causes deriving from some outside source but must confine itself to the study of relations existing between facts which are directly accessible to observation." <http://en.wikipedia.org/wiki/Positivism>

between *positive knowledges* ('certainties') and *negative knowledges* ('uncertainties') proposed here clear - uncertainties are the tensions between different certainties, while certainties are created in response to uncertainties.

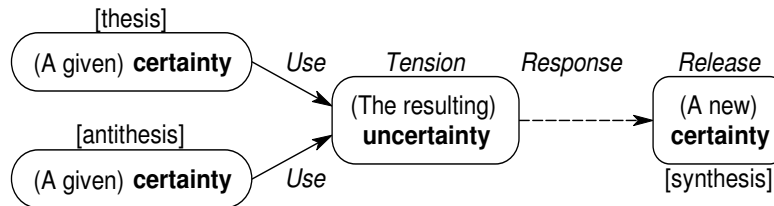


Figure 3f: The role of certainties and uncertainties within scientific thought

Spender has, in his work, repeatedly explored the relationship between knowledge and uncertainty: he (1989:42) sees uncertainty as a “knowledge deficiency”, considers that we see as many types of knowledge as we see types of uncertainty, and (1998:238) describes reaching out towards a “vision... of a vast, fertile, ‘soup’ of human collective knowledge, largely implicit”. Yet I would add that it is the **dissent** between certainties that produces uncertainties, which then act as societal irritants - collective itches which only further knowledge activity can resolve.

3.3

UNCERTAIN KNOWLEDGE

The picture I am painting here specifically depicts ‘traditional’ (positive) knowledges as (*non-absolute, or relative*) certainties, and the tensions between those certainties as *uncertainties* (“negative knowledges”) - and asserts that these are both types of knowledge which knowledge frameworks should include. One can usefully think of certainties as ‘knowledges of assertion’ (i.e. knowing the answer) and uncertainties as ‘knowledges of conflict’ (i.e. knowing the question) - and so all bodies of knowledge are defined by the accumulation and interplay of both these types of knowledge.

A particular enterprise or community, then, is delimited not only by its **set of certainties** (its positive knowledges), but also by its **set of uncertainties** (its negative knowledges) - the set of itches it is collectively trying to scratch. Similarly, knowledge infrastructures (or ‘Ba’) can be thought of as *investments in uncertainty*, or **negative capitals**.

Furthermore, a research programme could equally be seen as a combination of allowable techniques (positive knowledges) and a set of research questions (negative knowledge). This leads to the idea that entire disciplines - like History or Science - might best be conceived of as negative capitals, institutionalised in ways to stimulate investment (positive capital) and knowledge creation in well-demarcated areas.

In Chapter One, I contrasted the ‘certain knowledge’ of science and philosophical epistemology with the ‘uncertain knowledge’ of business: it should now be clear that ‘**certain knowledge**’ solely comprises the positive knowledges (certainties) of the positivists, while ‘**uncertain knowledge**’ covers both positive **and** negative knowledges (however amorously). Modern business theorists are therefore reaching out (through routes such as the modern capital literatures) towards ideas of uncertain knowledge unrepresentable by simple-minded positivism - namely, towards pluralist epistemologies.

Even so, the idea of ‘investing into uncertainties’ may still seem heretical or paradoxical to some: yet how better could (for example) problem-solving be described? Finally, we can begin to pinpoint the malady afflicting Knowledge Management: its Information Management faction proposes **investing in certainties**, while its sociological faction proposes **investing in uncertainties** - and until they can agree a single epistemology incorporating both certainties **and** uncertainties, they will likely remain at war.

To be useful as a field, then, Knowledge Management must integrate notions of both ‘Certainty Management’ and ‘Uncertainty Management’ into its conceptual arsenal, and at a fundamental level: for example, what kind of problems have team members been effective at solving in the past? What problems hamper day-to-day team-working? What technical issues need resolving? What does the company lack?

Though this vision of epistemologies constructed from both certainties and uncertainties is helpful, it still fails to illuminate how networks of knowledges are structured (within Spender’s “vast, fertile ‘soup’”). The next section proposes three (tensed) subtypes of uncertainty, which I call “Keatsian uncertainties”, which will drive the rest of this work.

3.4

KEATSIAN UNCERTAINTIES

"....several things dovetailed in my mind, & at once it struck me, what quality went to form a Man of Achievement especially in Literature which Shakespeare possessed so enormously - I mean NEGATIVE CAPABILITY, that is when man is capable of being in uncertainties, Mysteries, doubts, without any irritable reaching after fact & reason." *John Keats* (1817) ¹⁶

While Spender sees 'uncertainty' as a 'knowledge deficiency', I think the Romantic poet John Keats came closest to expressing its full potential when he praised Shakespeare's ability to remain in "*uncertainties, Mysteries, doubts, without any irritable reaching after fact & reason*". As modern writers, our language is so deeply immersed within a positivistic tradition that it can initially be hard to see Keats' "negative capability" for "being in uncertainty" as useful. However, I argue that it is 'Keatsian uncertainties' in which our lives are primarily immersed, and which we 'irritably reach after' new certainties to resolve - that uncertainties herald new certainties, and in turn the combination of certainties lead to yet further uncertainties.

Centrally, I propose that there are three distinct *uncertainties*, each associated with a distinct tense - **Mysteries** (of the past), **Quandaries** (of the present), and **Problems** (of the Future),¹⁷ where (following Section 3.1) Mysteries correspond to Spender's *ignorance*, Quandaries to *decisional uncertainty*, and Problems to Spender's *indeterminacy*. To resolve one particular Keatsian uncertainty, we often (in practice) try to convert it into another (more tractable) one. For example, to try to resolve a (present-tense) *quandary*, we might (like Business Decision Theory) hypothesise each possible action in turn, and predict its result - that is, try to resolve it by transforming it into a set of (future-tense) *problems*. Alternatively, we might try to understand a historical *mystery* by considering the *quandaries* facing each of the players within that drama - or to predict

¹⁶ **Keats, John** (1958) [1817] *The Letters of John Keats: 1814-1821* (ed. Hyder Edward Rollins), 2 vols. Letter 1:193, to George and Tom Keats, 21/12/1817. Online at: <http://www.mrbauld.com/negcap.html>

¹⁷ This draws on Chomsky's notable distinction between 'mysteries' and 'problems'. See: **Chomsky, Noam** (1969) "Aspects of the Theory of Syntax", MIT Press.

a business' future *problems* by examining the *quandaries* presently facing its customers.

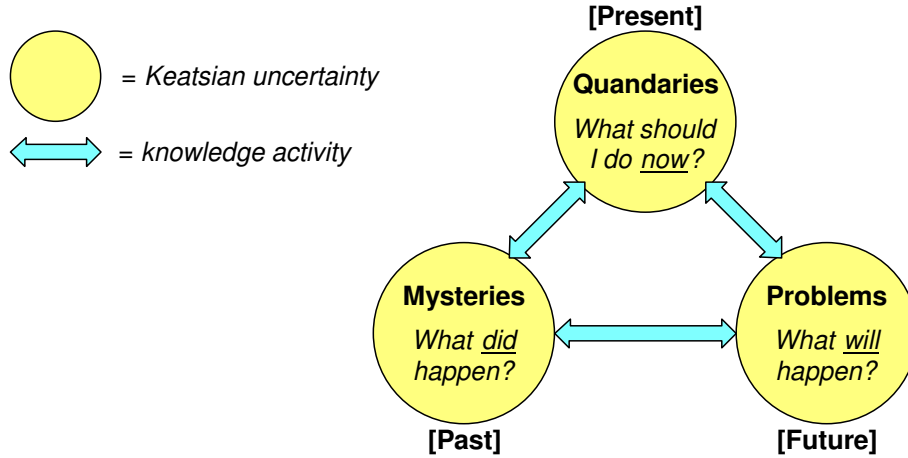


Figure 3g: The three 'Keatsian uncertainties' - three distinct 'heralds for knowledge'

So, I assert that we spend our daily lives immersed in these Keatsian uncertainties, and use our existing set of certainties to try to resolve those uncertainties - but if that process proves unsatisfactory (and the itch remains unscratched), we 'irritably reach after' new certainties.

Keatsian uncertainties can usefully be thought of as three distinct **categories of choice** - choice of *opinion* (of the past), choice of *prediction* (of the future), and choice of *action* (in the present) - and hence of **possibility** (because where you have a choice, you have by definition a range of possibilities to choose from).

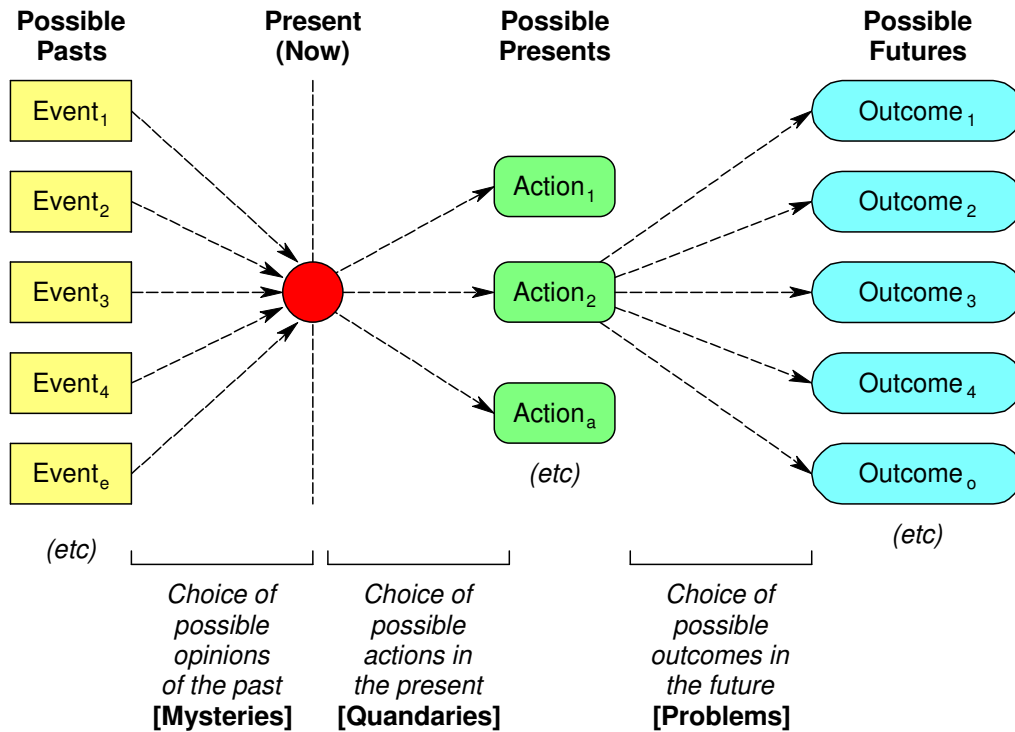


Figure 3h: three tenses, three types of possibility, three types of choice

For empiricists, the predominant uncertainty is (following Spender) *ignorance of past facts*, while determinists see uncertainty (again following Spender) as being the *indeterminacy of others' future reactions*: correspondingly, decision-makers see uncertainty as the *difficulties of present evaluation*. Note that these tenses correspond not to some absolute time-frame, but rather to the particular time-frame being discussed.

It turns out that while these three uncertainties are relatively immovable (and hence shared by most epistemologies, even if they are largely unacknowledged), individual worldviews have a great deal of latitude about how they connect their certainties to those Keatsian uncertainties - the next section describes five paradigmatic knowledge frameworks, but many more are possible.

3.5

FIVE LOGICS OF KNOWLEDGE

How do we knit certainties and uncertainties together? I describe five different logics of

knowledge ('undifferentiated', 'pragmatic', 'institutionalised', 'dialectic', and 'modern') here, which I assert have been dominant at different times in history, but which are **all** still active within present-day society - and that the very different roles which certainties and uncertainties play within them give rise to many of the difficulties experienced in practice. Each logic yields a different **view of society**: so ideologies express not only an implicit view of **knowledge**, but also an implicit view of **how society should work**.

(1) The '**undifferentiated**' logic of knowledge sees certainties and uncertainties merely as a 'soup' of free-floating entities, applicable in any context, and with no innate structure relating them. In the following, "Myths" happened 'once upon a time', whereas "Legends" are more like near-historical propaganda, and "Stories" are more like 'folk-tales': but for this worldview, all three are undifferentiated, and so blend loosely into one another. Much like Occam's Razor, this logic soothes the innumerable itches of an uncertain world by proposing a parsimonious number of certainties (such as "God", or perhaps "Evolution").

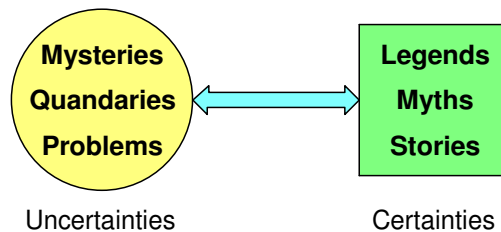


Figure 3i: the 'undifferentiated' logic of knowledge

(2) The '**pragmatic**' logic of knowledge introduces the Keatsian uncertainties to divide ownership of uncertainty between three notional components of society - Church (which owns *mysteries*), State (which owns *quandaries*), and Guilds (which own *problems*). These capitalised uncertainties (or "negative capitals") comprise the social institutions, yet they still share a common (pragmatic) set of knowledge about the world - so, a *pragmatic society* holds all its practical, political, and spiritual knowledge embedded in its myths, legends, and stories.

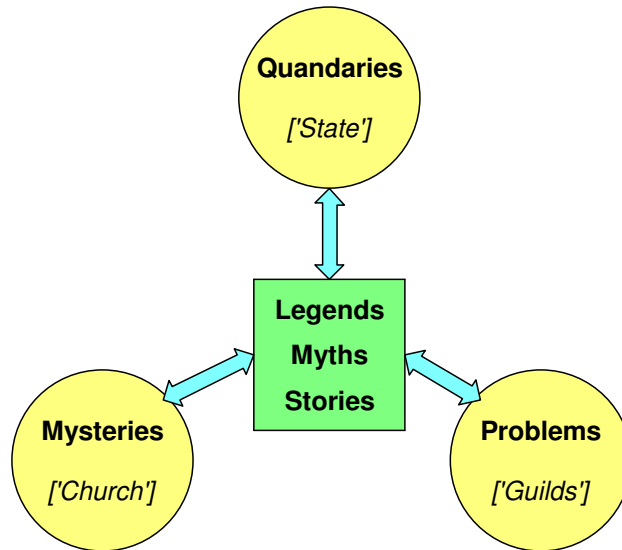


Figure 3j: the 'pragmatic' logic of knowledge

(3) The **'institutionalised'** logic of knowledge is where knowledges (both certainties and uncertainties) are owned by distinct 'tensed' institutions. Certainties then become direct reflexes to uncertainties - for example, the institutional response to the mystery of "where did we come from?" is the answer "God / Evolution created us". As each institution develops its own (Thomist / technological / etc) logic, it becomes further differentiated from the others: but such a society has no mechanism by which these can be reconciled.

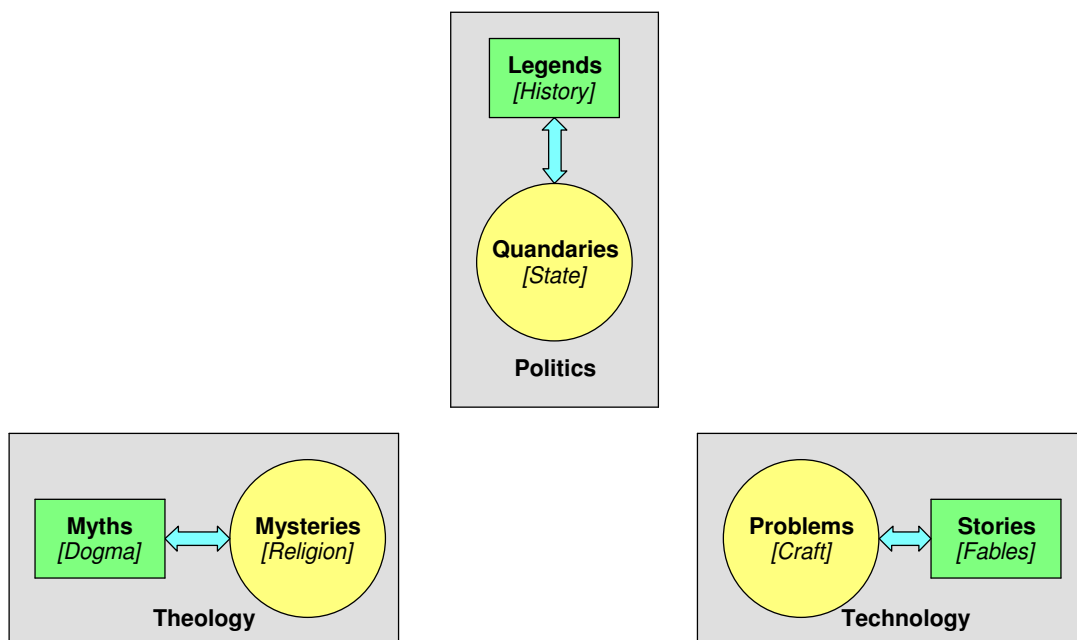


Figure 3k: the 'institutionalised' logic of knowledge

(4) The ‘**dialectic**’ logic of knowledge tries to overcome the problems of institutionalised knowledge by introducing a negotiatory mechanism (‘dialectic’): with this, institutions can try to reach compromises on overlapping issues. Dialectic traditionally comprised two pathways - *via inventionis* (invention of premises) and *via iudicii* (judgement of validity). Dialectic knowledge is therefore a compromise between institutions (but whose internal knowledges rarely change as a result of the process). In fact, Plato’s account of Socrates’ masterful use of dialectic gives the impression of the futility of trying to sustain any kind of opinion, given the wealth of inherent contradictions between institutions one’s opponents might mine for rhetorical advantage.

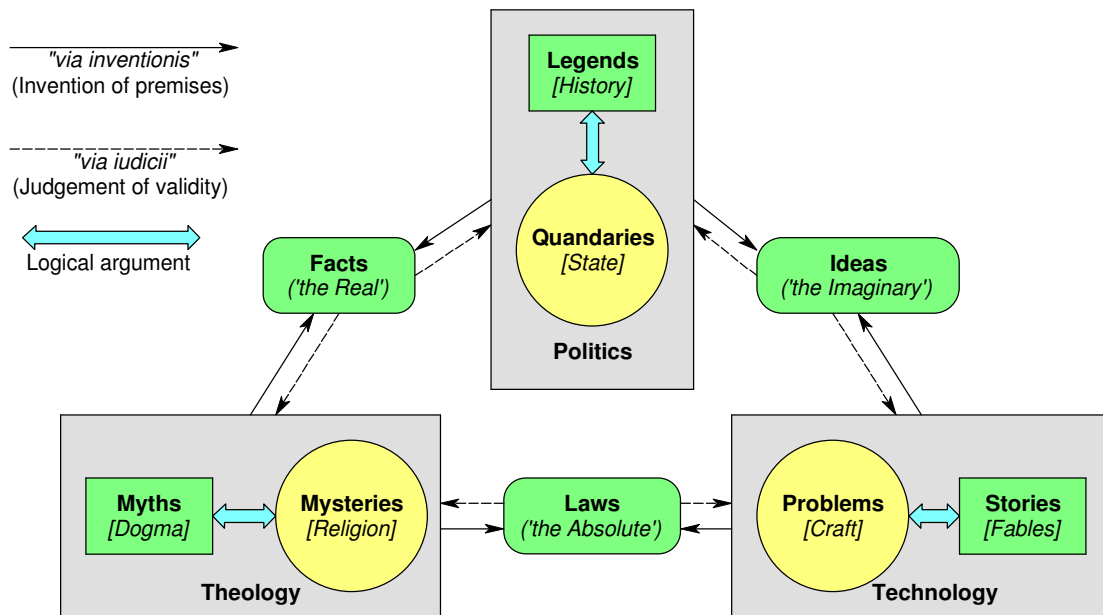


Figure 31: the ‘dialectic’ logic of knowledge

(5) Finally, the ‘**modern**’ logic of knowledge is based on a radically different relationship between certainties and uncertainties, which are chained together in complex sequential networks. Here, certainties are **the means by which one type of Keatsian uncertainty is converted into another** - for example, a “what-if-I/we-were-to” scenario is the logical means by which a (political) quandary is transformed into a (scientific) problem.

Here, knowledge has broken loose from its grey institutional boundaries - discrediting

their internal *myths, legends* and *stories* - and the three uniquely dialectic knowledges (Laws, Facts, and Ideas) have become specialised into pairs of modern certainties (**symptoms/explanations, scenarios/predictions, models/theories**).

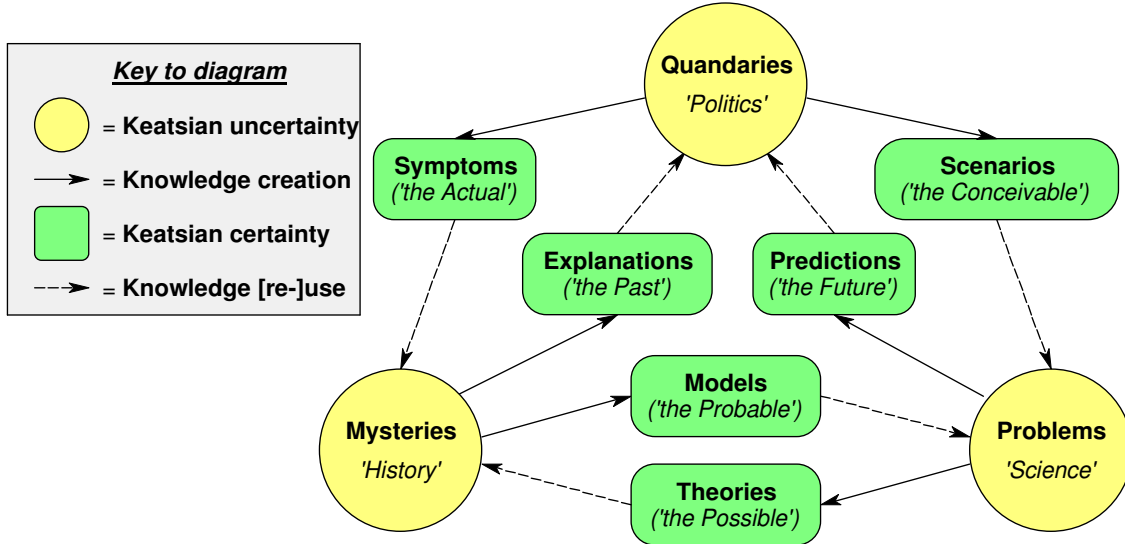


Figure 3m: the ‘modern’ logic of knowledge

Conceptually, this is the easiest logic to understand: it uses *Scenarios* to turn “what-should-I-do?” *Quandaries* into “what-if-I-were-to-do-<X>?” *Problems*, and then *Predictions* to turn them back again. Similarly, it uses *Symptoms* to turn “what-should-I-do?” *Quandaries* into “what-if-<Y>-had-actually-happened?” *Mysteries*, and then *Explanations* to transform them back again. Finally, it uses *Models* to aggregate past *Mysteries* into a (more scientifically tractable) *Problem* form, and *Theories* to turn scientific insights (for *Problems*) into something applicable to past *Mysteries*.

Having to consider these five types of logic would be bad enough, but even beyond this, individuals (or particular ideologies) may develop hybrid logics, assembled from multiple worldviews - perhaps unsurprisingly, appropriating from multiple sources (without regard to their underlying logic) can be an effective way of causing epistemological chaos.

3.6

KNOWLEDGE AND STRATEGY

It’s now time to bring all the strands together: the previous section indicated that the

particular way a society connects its certainties to its uncertainties - the topology of its “network of knowledges” - effectively defines its approach to the three kinds of (tensed) possibility, and hence its worldview. But this is no more or less than its **strategy!**

Furthermore, this is just as true of individual companies, academic fields & communities as of societies: in fact, **topology defines ideology** - or (as per the title) **the network is the knowledge**. Like societies, a given power interest will want to laud those kinds of certainty which best serve its interests, while excluding those that cause it trouble: it does this by building up a language of power whose grammar and taboos support those aims.

Importantly, the tools developed within a particular ideology can become extremely sophisticated (like the *qal-va homer* of Rabbinic reasoning¹⁸): yet this can lead to an unjustified belief that all uncertainties can be tackled with the same conceptual toolkit - like the “Ionian Enchantment”, Gerald Holton’s (1995)¹⁹ term for the seductive (but false) notion that all knowledge can be reduced to scientific knowledge. Alternatively, it can lead some to conclude that all non-ideologically-sanctioned knowledge is *non-knowledge*: as Midgley (1989) says, such “*imperialistic thought-systems tend to say that beyond their limits lies nothing but outer darkness*” (p.186), and having identified that-which-is-unspeakable, their proponents “*treat it, like Ayer and Russell, with derision as pretentious nonsense.*” (p.187).

The diametric opposite is what Midgley characterises as “exuberant or Hegelian imperialism”, which works “by implying that it is so rich that it can provide a mode of expression for everything that anyone might reasonably want to say”. (p.187) My hope is that, while this present work falls within her latter “exuberant” category, its inclusion of both certainties and uncertainties makes it broader (and more genuinely rich) than those

¹⁸ See: **Maccoby, Hyam** “Some Problems in the Rabbinic Use of the Qal va-Homer Argument” <http://www.mucjs.org/qalvahomer.htm>

¹⁹ **Holton, Gerald** (1995) “Einstein, History, and Other Passions”. Woodbury, NY: American Institute of Physics Press. Quoted in **Wilson, Edward O.** (1998) “Consilience: The Unity of Knowledge”, Little, Brown & Company: London. (p.2)

in the Hegelian tradition.

The central idea of this paper is that the five knowledge logics described above provide a set of historic frameworks for visualising the ideological networks of knowledge, and for assessing the key relationship between an ideology's certainties and the three Keatsian uncertainties. These logics therefore form the theoretical basis for the conceptual toolkit for ideology developed in the next section (and tested in the next chapter).

3.7

A TOOLKIT FOR IDEOLOGY

The central idea here is that, by understanding the certainties and knowledge activities a given worldview stresses and excludes, we can typically match it to a subset of the five logics of knowledge (*undifferentiated, pragmatic, institutionalised, dialectic, and modern*) described in the previous section. Then, once we have compiled a diagram of its knowledge network, we can begin to discuss what can best be expressed (and what cannot be expressed at all) within that worldview - that is, we can identify its **ideological fetishes and taboos**. Furthermore, we can use this to achieve not only Derrida-like **deconstruction**, but also some kind of **reconstruction** - that is, to try to rebalance ideologies, by highlighting any unstated taboos and assumptions.

In practice, when examining a subject text, its **words** can help us achieve these aims. Though language is frequently the handmaiden of ideology, it is generally used to describe common problems and patterns of behaviour, using a constrained range of vocabulary: and so we can use linguistic analysis to help us diagnose the types of knowledge (and hence the type of knowledge logic) in use there.

The following two tables list the kind of (largely business-oriented) words typically used for the six types of dialectic knowledge and the six types of modern knowledge: these examples should make clear what we will be looking for in the next chapter.

Knowledge	Description	Synonyms / Keywords
Myths <i>(Dogma)</i>	Anything brought down from the mountains on clay tablets	<i>Teachings, wisdom, eternal, timeless</i>
Legends <i>(History)</i>	History (as written by the victors)	<i>Spin, hype, propaganda, PR</i>
Stories <i>(Fables)</i>	Cautionary tales	<i>Fairy stories, parables</i>
Facts <i>(the Real)</i>	Reality (if it matches what you're expecting to find)	<i>Information, objects, objective, data, tangible, ontology, The World</i>
Ideas <i>(the Imaginary)</i>	The magic of the mind's eye	<i>Simulacra, phantasms, eidolons, notions, dreams, virtual, advertising</i>
Laws <i>(the Absolute)</i>	How the world works	<i>Absolute, unquestionable, exact, precise, perfect, Truth</i>

Table 3n: the six key types of dialectic knowledge

Knowledge	Description	Synonyms / Keywords
Symptoms <i>(the Actual)</i>	Outward signs of past events	<i>Qualia, cepta, manifestations, records, details</i>
Explanations <i>(the Past)</i>	Accounts claiming to explain past events	<i>Opinions, viewpoints, valuations, diagnoses, claims, insights, accounts</i>
Scenarios <i>(the Conceivable)</i>	Descriptions of (possible) future events	<i>Concepts, ideas, suggestions, possibilities</i>
Predictions <i>(the Future)</i>	Summarised versions of (possible) future events	<i>Forecasts, prognoses, evaluations</i>
Models <i>(the Probable)</i>	Summarised versions of past (empirical) symptoms	<i>Patterns, etiognoses, descriptions, skills, maps, sets, collections</i>
Theories <i>(the Possible)</i>	Principles constraining the occurrence of events	<i>Cycles, waves, geometry, topology, prescriptions, template</i>

Table 3o: the six key types of modern knowledge

We might also consider whether we might be able to diagnose **knowledge processes** from their vocabulary. A dialectic knowledge process has the form of a *negotiation* between institutions, while a modern knowledge process has the form of a *transformation* between Keatsian uncertainties.

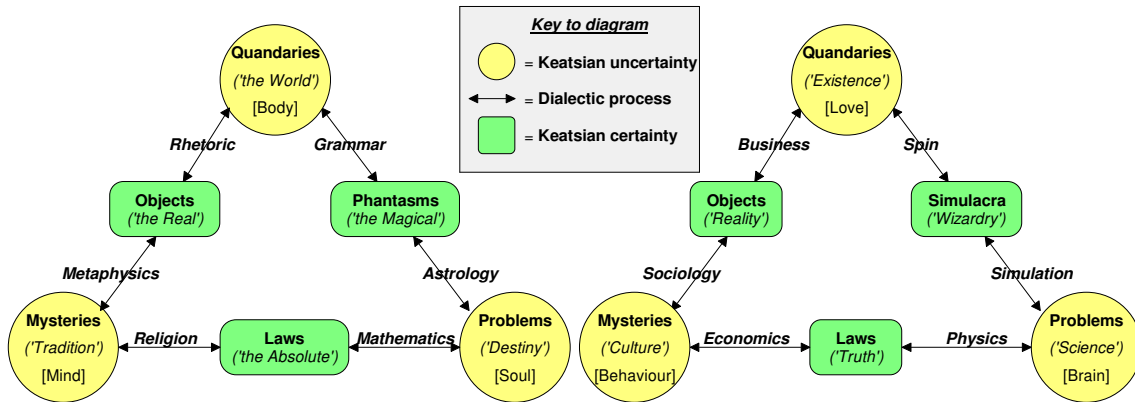


Figure 3p: Dialectic processes in medieval and contemporary knowledges

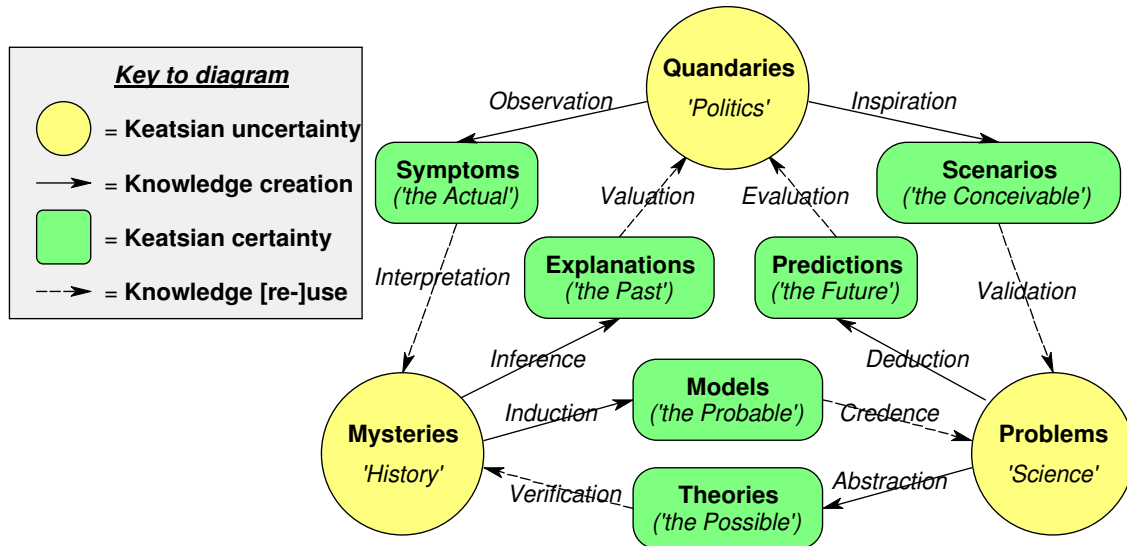


Figure 3q: Modern knowledge processes

This implicit *negotiation-vs.-transformation* dichotomy is the fundamental distinction between dialectic and modern knowledges, and (I believe) runs right to the heart of Midgley’s (1989) question “What is knowledge for?” For dialectic epistemologies, knowledge is for **negotiation between institutionalised uncertainties**; while for modern ones, knowledge is for **transforming uncertainties into a more tractable form**.

All this section's diagrams and tables are doing is giving us hints, to try to overcome the ambiguities of language: but ultimately, our challenge is to go beyond the actual words used, to assess what **choices** any given ideology allows and prevents, and so to try to understand its conceptual foundations on its own terms, and how it functions in practice.

3.8

WORKED EXAMPLE

To help make what the preceding sections' ideas mean clearer, here is a brief worked example of the toolkit in action, applied to the Wikipedia definition of "empiricism",²⁰ (where I have highlighted all the critical terms):-

*Empiricism is the school of Epistemology (in philosophy or psychology) that all knowledge is the **result** of our **experiences**. (See John Locke's Tabula rasa or "blank slate" theory.) Empiricism is closely allied with (philosophical) materialism and positivism and opposed to continental rationalism or intuitionism.*

*Empiricism is generally regarded as being at the heart of the modern scientific method, that our **theories** should be based on our **observations of the world** rather than on **intuition** or **faith**; that is, **empirical research**, **inductive reasoning** and **deductive logic**.*

Probably the most important single issue to resolve when using the toolkit to visualise an epistemology is this: is it closer to a dialectic mindset or to a modern mindset?

Empiricism (as defined in the quoted text) is a prime case in point: with its close links to the scientific method and positivism, we might expect it to be aligned with modern logic. Yet looking more closely, its (certain) "observations of the world" seem perilously close to dialectic 'Facts': and it is far from clear what function its "theories" perform.

Empiricism's explicitly-mentioned **taboos** ('intuition' and 'faith') are both also interesting: one might observe that **faith** involves relying on past experience to tackle

²⁰ <http://en.wikipedia.org/wiki/Empiricism>

future uncertainty (liquidity, following Ritzmann (1999),²¹ being a form of faith in money), and intuition involves developing present insight into future uncertainty.

Having debated all the above at some length, I conclude that empiricism (as defined) relies entirely on a **dialectic mindset**, where its “theories” are actually *myths of experience*. Rather than engage with problems of the future, empiricism introduced a kind of *intellectual apartheid*, severing all links with irksome future uncertainties by stigmatising those kinds of certainties which might form bridges to it.

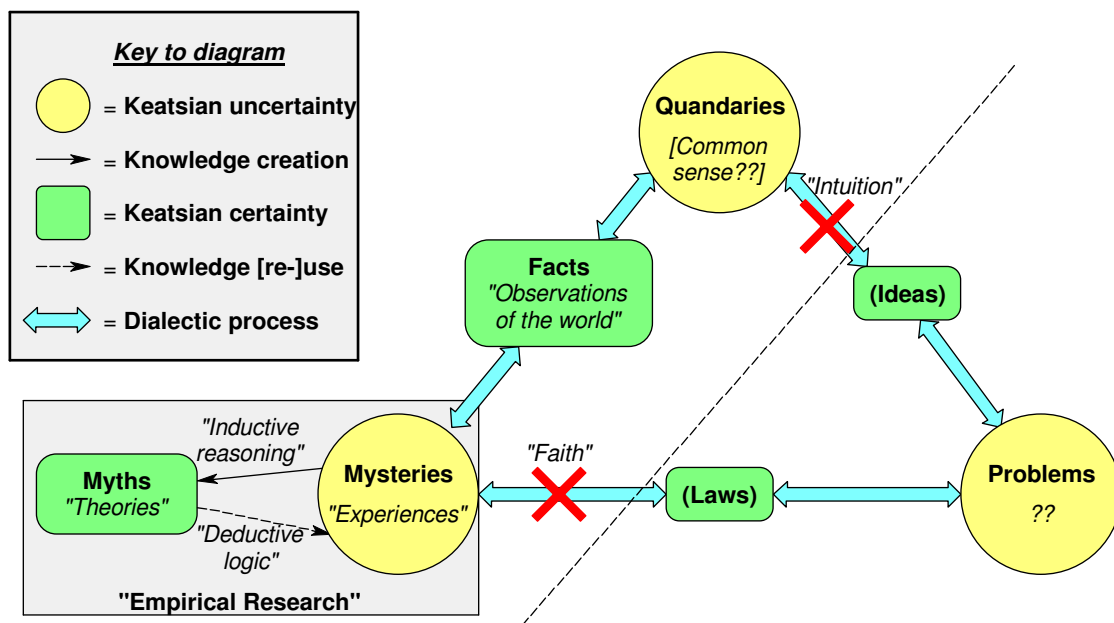


Figure 3r: Empiricism's dialectic ideology, visualised

What can we now observe about Empiricism from applying the toolkit to it (to produce Figure 3r) that we could not before? To my eyes, this diagram makes it clear that its notion of “Empirical Research” performs the same function as an institutionalised religion, whose “theories” are no different from myths. It is a dialectic worldview, but one with no well-defined conception of any institution (to negotiate with) beyond itself. Its “observations of the world” are thinly disguised dialectic “Facts” (negotiated between

²¹ Ritzmann, Franz (1999) “Money, a substitute for confidence? Vaughan to Keynes and beyond”.

its Theories and, implicitly, ‘common sense’). It has no useful sense of what political (present-tense) or scientific (future-tense) uncertainties might mean. It is simply a godless theology with no justification behind its use of the present, and no use for the future.

From the preceding discussion, this toolkit’s biggest strength seems to be that it significantly empowers the critical reader of a text, almost to the point of having ideological “X-ray vision”. Yet its biggest weakness is that the interpretability of subject texts varies considerably, to the point where individual words (like “Theories” above) cannot be trusted, and must be read extremely carefully - and as few authors are capable of linguistic precision over extended passages, ideological emphasis can slip and slide across the duration of an individual text.

3.9

DIALECTIC VS. MODERN

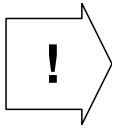
I argue that much of the debate around tacit knowledge in general (and around Knowledge Management in particular) arises from the clash between the two knowledge juggernauts - *dialectic versus modern*. For the dialectic mindset, investment only makes sense into its **institutionalised uncertainties** - while for the modern mindset, investment only makes sense into its **reusable certainties**. This kind of **deep incompatibility** (between different logics of knowledge co-existing in present-day practices) is profoundly difficult to resolve.

It seems as though dialectic knowledge (*myths, legends, stories, facts, ideas, laws*) comprises many of those things we now intellectually despise (yet still use), while modern knowledge (*symptoms, explanations, scenarios, predictions, models, theories*) embodies all those intellectual ideals we aspire to (yet fail to achieve).

Keats praised Shakespeare’s “negative capability” - but perhaps his genius was that, despite standing at the junction of the dialectic and the modern (between Renaissance magic and Baconian pragmatism) he was able to synthesise them both into his worldview:

and perhaps our own intellectual poverty is that we are so immersed in a positivist tradition of certainty that we find it extremely hard to grasp uncertain ways of knowing.

How might we now try to synthesise them? If you characterise *dialectic knowledge* as comprising ‘**false certainties**’ (because it claims a level of absolute certainty about the world which cannot be justified), and *modern knowledge* as comprising ‘**certain falsities**’ (because it recognises that its relative certainties contains uncertainties embedded within it, and so are inherently inexact), it at first can seem hard to see how these two (apparently dichotomous) attitudes to knowledge could ever be reconciled.



Yet I suspect that, in the end, the only way to build a composite worldview (between dialectic and modern) would be to focus on the three immovable Keatsian uncertainties as the foundations of our shared reality, and to see certainties as **necessary fictions** that (we hope) help us make our difficult choices - in short, a view of *knowledge as literature*. Surely this is how a 21st century Shakespeare would see it?