Interpretation in Social Life, Social Science, and Marketing

John O'Shaughnessy



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Routledge Interpretive Marketing Research

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Preface

Interpretation is pervasive throughout all human activities to cope with problematic situations, vagueness and ambiguity. And all methods used in academic disciplines involve interpretation in one way or another, with interpretation on occasion being the sole methodology employed, as in the humanities. All this suggests interpretation might be a worthy topic to pursue. I have thought this for many years and found myself introducing the topic into most of the courses in organization and marketing management I have taught.

This book evolved over the years from teaching and discussions with colleagues. The contexts in which actions take place vary widely, which vitiates the search for universal 'laws' in the social sciences. This together with a growing endorsement of methodological pluralism has increased the interest in interpretation and interpretive methods for understanding human behavior. Not surprisingly, responding to this interest there have been many articles and books devoted to the topic but all have restricted themselves to a narrow focus, failing to take account of the varying nature of interpretation throughout the academic disciplines and social life. Books on interpretation focus on hermeneutical methods as if everything else about interpretation is unproblematic. What distinguishes this book is its wide coverage, showing interpretation as a universal problem to be overcome in all walks of life.

We all interpret from some standpoint or perspective. All intellectual activity takes place constrained by some organizing conceptual scheme that reflects our perspective on the issue at hand. Perspectives can bias outlooks and color interpretations. The perspective espoused is thus important as some perspectives for certain problems are more enlightening or explanatory than others. The various scientific paradigms in social science, like behaviorism or cognitive psychology, are perspectives that act as conceptual lenses to guide research and the interpretation of findings. Although often viewed as competitors, rival paradigms may either offer additional windows onto a problem or seek answers to entirely different questions. The belief that truth can only be sought by interpreting the reality of inter-

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est through just the one perspective has led to the dismissal of other perspectives as invalid rather than providing an enlarged viewpoint.

The topic of interpretation is used in this book as an umbrella for bringing together a wide range of concepts and developments that are the foundation of clear thinking about social phenomena. Clear thinking is needed since there are no universal laws in social science on which we can depend to displace the need for a critical faculty. There are no absolute truths in any of the sciences but there is still valid thinking and the tracking of truth.

It is becoming increasingly recognized that courses on methodology cannot just be confined to courses in multivariate statistics. Courses on statistics are an inadequate substitute for knowing something about philosophy of science and such topics as conceptual analysis. This book fills a gap in providing coverage of what needs to be known about methodologies beyond what is contained in statistical courses.

1 Interpretation and Methodology

THE PERVASIVENESS OF INTERPRETATION

Interpretation is basic to all our endeavors whether as scientists or as individuals going about our daily lives. Interpretation is distinguished from inference. Inference draws valid conclusions from given premises while interpretation is never beyond question. No final, absolutely true interpretation is ever proven: some conjecture is inevitable when facts are selected, connected and put into a plausible pattern. Although we recognize the role of interpretation and its importance, as when we say 'it all depends on your interpretation', we may fail to recognize how pervasive interpretation is, if we think it is something we only do when things are vague or ambiguous.

Every time we deliberate on events or on our experience, we are interpreting. Interpretation is fundamental since how things are interpreted determines what actions we consider. But interpretations can be far from arbitrary. The better interpretations will be consistent with the commonly agreed facts and account for the facts in a more coherent way: bringing the maximum number of facts into a meaningful relationship with the minimum of conjecture. Nonetheless, disagreements over interpretation will occur given that the 'facts' to be interpreted are selected, ordered and weighted in accordance with the perspective or viewpoint adopted. Few people have a completely open mind on an issue but a point of view that they prefer to have reinforced rather than challenged.

Understanding a person's perspective is a prerequisite to knowing how a person might be persuaded to another point of view. Michael Oakeshott saw this as a problem for historians when they impose on the past illicit patterns emanating from the perspective of their current concerns. And also for politicians imposing patterns on the future to fit a perspective reflected in some grand scheme for 'improving' the lot of mankind (Franco, 2004). For Oakeshott, each of us has a governing perspective on the world whether theoretical or practical. This is true for all scientists where relevant reality is viewed through the perspective of the discipline's 'paradigm'.

Scientific paradigms act as conceptual lenses that guide research and the interpretation of findings. Although the different paradigms in social

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science are often viewed as competitors (e.g., behaviorism versus cognitive psychology), more typically, they offer additional windows onto a problem or seek answers to entirely different questions.

WAYS OF KNOWING AND INTERPRETATION

Pickstone (2000) in his history of science, technology and medicine talks of three 'ways of knowing' in *science*; all involve interpretation:²

- 1. *Natural history* which consists of describing and classifying things as they come to be. Pickstone argues that the more scientific inquiry is concerned with complexity and/or singularity, the more scientists tend to adopt the natural history way of knowing. Zoologists and geneticists fit this category. The human genome sequence allows scientists to go back in history to infer the order, and even the timing, of each addition to our ancestral genome. At a more pedestrian level, a good deal of marketing research is concerned with the natural history way of knowing: doing surveys, describing trends or changes in values plus classifying and tabulating findings.
- 2. Analysis consists of seeking understanding by 'dissection', with things viewed as a mix of elements or a process with the elements 'flowing' through a system. Mathematical analysis belongs to this category which, while never creating knowledge out of nothing, brings out the implications of data that would otherwise be hidden.
- 3. Experimentation consists of tests with results that are relevant to the truth or falsity of some hypothesis or theory. But it is not just test results that are in need of interpretation, for it cannot just be assumed, without checking, that subjects will interpret their task exactly as intended. Experiment is viewed as *the* scientific method, though perfectly respectable sciences like geology and astronomy cannot conduct experiments. Pickstone quotes Rutherford's well-known quip that science is either physics or stamp collecting to illustrate the claim for the superiority of experimentation over analysis and natural history.

These three ways of knowing do not typically address the same problems or answer the same questions. When just one way of knowing is adopted to tackle all the questions raised in a discipline, the result can be a deficiency in explanation. The three ways of knowing can complement each other. As Pickstone says, many scientific projects involve more than one kind of knowing. Thus experimentation, as a way of knowing, may need to be supplemented by background history and analysis. This is particularly so when we recall the problem in social science of generalizing from an experiment.

Although the three methods embrace the traditional methods used to gain knowledge in science, there are advocates of additional ways

- of knowing, namely, intuition and tradition, while in this chapter we add 'interpretation' itself as a sixth method .
- 4. *Intuition*. In some circles, intuition carries the notion of being a superior mode of attaining knowledge (Plato's 'eye of the soul') or alternatively as an unreflective inclination to believe something. Intuition is also viewed as the delivery system for ideas that reason is used to defend. It is generally accepted that intuition is derived from nonconscious knowledge. Goldberg (2000) views intuition as the condensation of prior experience and the result of condensed analytic processes.³ The expert, using intuition, bypasses the logical steps precisely because intuition is a condensation of the extensive use of orderly logical steps in the past. The conventional view, from the study of adults with brain damage, is that the left side of the brain embraces language functions while the right side embraces visual-spatial reasoning with the two hemispheres communicating via the corpus callosum. But for Goldberg the left hemisphere is also the repository of compressed knowledge and pattern recognition capacities, allowing a person to deal with familiar situations, while the right hemisphere is the novelty hemisphere, the explorer of the unknown and the uncharted. He argues it is the right hemisphere that is dominant when we are young but the right hemisphere loses out to the left hemisphere as we age since it is the left side that accrues an expanding 'library' of efficient pattern-recognition devices. This suggests the title of his book: The Wisdom Paradox: How the Mind Can Grow Stronger as Your Brain Grows Older.
- 5. Tradition. Tradition in the interpretation of sacred texts like the Bible is for some the foundation test of truth. We are all familiar with Galileo's (1564-1642) confrontation with the Roman Catholic Church over the heliocentric theory that the earth moves in orbit around the sun and spins about its own axis and that, in 1633, the Inquisition coerced Galileo into recanting the theory. While it is true that the heliocentric theory was considered wrong and Galileo was charged with heresy, it might strike us as odd that Galileo would be so singled out, given that Galileo's claim was simply a more grounded upholding of Copernicus (1473–1543), whose thesis was published at the time of his death. And Copernicus himself had merely revived the essentially heliocentric view of Aristarchus (310-230 BCE). What really incensed the Church was Galileo's refusal to acknowledge the 'deeper truths' of Church tradition over claims for his method as the way to establish truth. As David Deutsch (1997) argues, 'the real dispute was not about whether the solar system had one layout rather than another: it was about Galileo's brilliant advocacy of a new and dangerous way of thinking about reality' (p. 74).4 Galileo implicitly claimed that scientific reasoning took precedence over religious tradition and revelation: it was this notion, not the heliocentric theory

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per se, that the authorities considered dangerous. Galileo was forbidden to hold and defend the heliocentric theory as the explanation of the appearance of the night sky. In denying the reliability of scientific knowledge, it was the explanatory part that the Church rejected. Galileo was not forbidden from using or writing about his theory or even defending it as a method of making predictions. The Church simply believed Church tradition and revelation were the source of true knowledge; scripture being but part, not the whole, of that living tradition. Indeed, it was claimed that reading the Bible, unaided, could not teach doctrine and that scripture was not useful as a source of direction on how to live in the world (Simpson, 2007). The Church could point out that no final explanation can ever be proved absolutely as God could produce the observed effects in an infinite number of ways. In today's debate over evolution and creationism/intelligent design, we have a similar clash between one tradition of biblical interpretation and scientific claims.

Although we think of those seeking truth by way of tradition as belonging to a religion, in science there is the related notion of *conventionalism*, which regards the truth of some statement as determined not by empirical fact but by social usage or social agreement. For the conventionalist, once a law or method is found useful, its acceptance becomes a pragmatic matter of convention. Paul Samuelson (1965) is a prominent conventionalist in the field of economics.⁶

All five ways of knowing entail interpretation as interpretation is part of any inquiry even in the natural sciences. Take, as illustration, a book on science I have in front of me with the heading "Tests for Thinking Rats". A white rat is shown leaping through one of three doors. Two of the three doors have identical horizontal stripes but these doors are latched. The third door has vertical stripes and is unlatched, allowing the rat to jump through the door. The rat is shown choosing the proper door, jumping through it to get a reward. The caption says this *proves* the rat has grasped the *concept* of 'oddness'. This is one interpretation but not a defensible one; the rat has at best simply learned to recognize the door it would be able to jump through. In fact, the grasping of concepts presupposes language use.

Significant innovations in the natural sciences have been resisted as a result of dubious interpretation. Thus Eddington, whose brilliant experiment tested and validated Einstein's general theory of relativity in 1919, employed arguments based on a suspect interpretation of general relativity theory to undermine (and ridicule) the theory of a young Indian academic, Subrahmanyan Chandrasekhar, a colleague at Cambridge. This resulted in the search for black holes being held back for 40 years when Chandrasekhar came back to work on his original discovery (Miller, 2005).8 Fellow scientists had great difficulty in accepting Einstein's general theory since its perspective was so discontinuous with Newtonian physics. In his general

relativity theory. Einstein in 1916 was able to combine gravity with space. time, matter and energy; not bad for someone whom his calculus teacher, Hermann Minkowski, called a lazy dog! Einstein's general theory changed the meaning, conceptualization, and interpretation of gravity from a force to being viewed as the outcome of the curved geometry of space and time.

6. Interpretation itself as a way of knowing. Interpretation itself can be regarded as a way of knowing, making it the sixth way of knowing. Interpretation may be *the* methodology of interest, not interpretation as something just ongoing to all methods of inquiry. As such, interpretation becomes a methodology or way of knowing in its own right. In contrast to deductive inference, interpretation is never guaranteed to produce valid conclusions. This does not mean that logic is not involved in interpretation. Take the following quote from the first paragraph of an Op-Ed piece I have just been reading, written by columnist David Brooks (2005) in the New York Times:

Most serious people who spend time in Iraq report that reality there is contradictory and kaleidoscopic. The Sunnis are participating in the democratic process; the Sunnis are supporting the insurgents. The Shiites are building a national government; the Shiites are creating death squads. The Americans are securing neighborhoods; the Americans are inciting violence. (Brooks, 2005)9

If we are to interpret this intelligently, we take account of the logic. The first sentence is true only if we accept the author's view (not given) of what constitutes 'serious people'. And contrary to Brooks, his statements are not in contradiction: some Sunnis may participate in the democratic process and *some* may support the insurgents, while some Shiites may be building a national government while some may create death squads, and some Americans may secure neighborhoods while at the same time be inciting violence. (In formal logic, the contrasting propositions are not contraries but subcontraries.)

INTERPRETING EVERY METHODOLOGY AS A TECHNOLOGY

Each methodology used to obtain knowledge can be regarded as a 'technology'. Technology is concerned with building systems that can succeed or fail, governed by rules that are not true or false but effective or ineffective. This view of technology as consisting of rules or operational principles for achieving successful practical performances is that of Michael Polanyi (1978). Toulmin (1977) similarly defines technology as a population of techniques, recipes, processes and procedures. 11 Technology includes systems like telecommunications, computers, buildings, cars, trains, airplanes—but also all investigative and planning systems. In contrast to technology, the natural sciences like physics and chemistry are concerned with developing *explanatory* theory that aims at tracking truth in respect to things such as atoms, heat, light, sound, electricity, magnets, forces and motion.

Polanyi points out that, though we can export the objective fruits of science (like scientific explanations) throughout the world, we cannot export the *skills* of doing good research since these skills require practice in the application of loosely textured rules, usually learned under the guidance of an expert. In the recruitment of researchers, the focus is typically on where someone was trained, by whom and for how long. Every methodology is a skill and this implies that research methodology is not mastered by reading books; books simply get us started and help us avoid errors.

Interpretive methods are a technology as they are concerned with developing systems of interpretation that can be effective or ineffective. There is no single, unique method of interpreting. On the other hand, there is no unique scientific method for the natural sciences. As Putnam (1981) says, no philosopher of science today accepts that there is just one scientific method. Susan Haack (2003) agrees, arguing there is no magic set of methods we 'baptize as scientific method', distinct from the intellectual tools we employ in our daily lives. As always, the method employed is determined by the kind of understanding that is sought and/or the questions being addressed.

Technology is governed by rules that are not true or false but effective or ineffective. Marketing management, though, can never be a mechanical application of rules whether the rules are called rules, principles, heuristics, maxims or whatever. They have to be interpreted in the light of situational factors to avoid putting in standard solutions when standard conditions do not exist. The trouble with all rules or principles is that, when very general, they seem to have little applicability to the individual case. On the other hand, the more specific the rule, the more it becomes like a recipe, with no room left for creativity.

Herbert Simon (1957) puts management principles into the category of proverbs, essentially useless in that for almost every principle one can find an equally plausible and acceptable contradictory principle ('too many cooks spoil the broth versus many hands make light work').¹⁴ To allow generality, principles assume sameness across situations which can be denied. But Simon's is a wrong perspective on the nature of principles. Principles (like proverbs) fall under *objective relativism*, which claims that, while the valid application of a principle is *relative* to the situation, a principle can still be *objectively* right or *objectively* wrong as can be the case with contradictory proverbs (Putnam, 1981).¹⁵ In other words, any contradiction is reconciled by recognizing that, while the appropriate application is *relative* to circumstances, the application is *objective* and not a subjective matter in that we have no problem in saying which proverb applies in what situation.

The appropriateness of a principle is tied to context, that is, whether the principle is applicable or not depends on the context since context suggests whether it can be validly applied. Principles of marketing or management emanate from the collective experience of managers. Interpreting a principle's appropriateness is less a matter of paying rigid attention to the rule so much as paying attention to the situation or circumstances to which it is to be applied. Principles, like all rules, are guidelines not formulas since there is often uncertainty as to the precise circumstances to which they can be applied. Sometimes we need explanatory theory to justify their appropriateness.

Some academics argue that research in marketing should focus on developing principles, advocating effects application research, problem orientation research etc., without being concerned with explanatory theory. But, as Robert Merton (1968) points out, such naive empiricism is likely to lead to the chaotic accumulation of miscellaneous empirical generalizations—as it has in marketing. This is because empirical research is blind without some guiding theory just as theory without empirical research can be empty. The such as the control of the chaotic accumulation of the chaotic accumul

INTERPRETATION, CONTEXT AND INDEXICALITY

Interpretations are guided by perspective or purpose. An advertisement for *The Times* of London points to this. It shows a banana on a plate with six plates that correspond to six different perspectives: (i) banana signaling fruit, (ii) banana signaling vitamins, (iii) banana symbolizing slapstick comedy, (iv) banana as sexual innuendo, (v) banana as symbolizing trade wars, (vi) the banana as a racist weapon. The ad caption simply reads: "if you take things only at face value, you miss what is important".

The *indexicality* of a word, phrase or sentence is that part of its meaning that is specific to the context in which it occurs. Language interpretation is always tied to context. Thus 'like' can be used to mean 'fond of', 'enjoy', 'feel' and so on depending on the context or the word 'novel' can be interpreted as a work of fiction or as something original. Meaning is indexed to context. The indexicality of a word is unknowable without knowledge of context. It is this indexicality that rules out replicating the *exact* findings of any study as contexts are never exactly the same. An amusing example of how the meaning of a word is tied to context is provided by someone's e-mail to his local authority protesting the erection of some building. It never reached the official because all the computers had an anti-spammer which rejected any e-mail with offensive language!

Context can change expected behavior, ruling out law-like generalizations. Contexts change interpretations and the weighting of the various considerations, just as the context in which a wine will be consumed changes the weights attached to price, type of wine and brand bought. We predict within a context. Thus people do all sorts of things to draw

attention to themselves like acting silly, dressing oddly and so on but not in all situations (like a job interview) since they are very much aware of what contexts are appropriate for what behavior. Zimbardo (2007) demonstrates the power of context or situations in warping people's judgment and channeling behavior in unexpected ways. In particular Zimbardo argues that situational factors (peer pressure, superior demands) are far more likely to explain abusive and cruel behavior to others (e.g., the Abu Ghraib prison case) than dispositional states like attitudes.

But what exactly is context? Scharfstein (1989) includes under context temporal, geographical, cultural, cognitive, emotion . . . anything at all in the relevant environment . . . and argues persuasively that no reasoning or any action can be fully understood outside of its own context. ¹⁹ This definition of context includes the conditions operating at the time. Politicians promise to undertake certain policies once in office but fail to keep their promises, commonly because, on recognizing the restraining conditions confronting them, they are apt to re-think the wisdom of what they promised.

Scharfstein argues that, if the grasp of context is purely *cognitive*, this limits understanding. Thus understanding the action of others is always held back if we have never shared (experienced) the relevant context. Perhaps this is why the senior citizen market is neglected as those actively in marketing are not senior citizens. People commonly say "I know how you feel" to those who have suffered but this is just an empty phrase unless they have experienced the same tragedy in a similar context. This suggests that *personal experience* of the various contexts in which a product is bought, consumed or disposed of is needed to fully understand the customer. Hence it helps a great deal for a product manager to belong to the market segment he or she caters to.

In endorsing the claim that no one can distinguish the meaning of a word divorced from the context, Scharfstein is also claiming that to understand human beings, there is a need to understand the various contexts in which human behavior is manifested. However, the degree of contextual detail we amass will depend on our aims, both intellectual *and* emotional. For many purposes, we can think of context as embracing the medium of communication, time and location. As for the medium of communication, interpretations differ between words as *spoken* and the same words as *written*: "There is no god but God, and Muhammad is the apostle of God". Take the problem, too, of how meaning can differ through time. The description of Ivan IV of Russia as 'Ivan the Terrible' has come to signify a cruel despot but this was not what historically 'Ivan the Terrible' implied. In the early 17th century, when the label was first used, the meaning connoted 'awe-inspiring' or formidable (Madariaga, 2005).²⁰

Interpretation takes context as background information in making things intelligible. We stress the word 'intelligible' rather than rational (as per the canons of rationality). An error perhaps made with Saddam

Hussein was to assume he would act in what would be considered a rational way by American and UK politicians. His conduct was, however, intelligible in the context of Iraqi culture and the contextual pressures on him to avoid losing face.

INTERPRETATION, SELF-INTEREST AND VALUES

Self-interest and the values reflecting our concerns influence interpretation. Livingstone (2003) illustrates this in discussing the reception of Darwin's *Origin of the Species* in New Zealand and South Carolina.²¹ In New Zealand, the book had an enthusiastic reception as the book seemed to justify the colonists' attempt to extirpate the native Maoris, while, in South Carolina, the book had a hostile reception as it suggested the close kinship between the local plantation owners and their soon-to-be-freed slaves.

Methodological Constraints on Interpretation: Methodological Monism, Methodological Exclusivism, Methodological Pluralism and Positivism

Many deny there are any serious problems of interpretation in doing *scientific* research. Those who claim this tend to endorse *methodological monism:* the notion that any discipline that aspires to be a science must follow the methodology of the natural sciences where interpretation does not loom large. Methodological monism is a core thesis of *positivism* that all scientific inquiry must, to be called scientific, follow the methods of the natural sciences.

As most disciplines promote themselves as 'sciences', there is inevitably debate over what is science. Dennett (2006) rejects as scientific evidence the mass of data contained in historical narratives on the ground that such cannot be reproduced under controlled conditions.²² This would rule out 'natural' experiments and a good deal of what we call sciences. It reminds us how often definitions are adopted to fit a viewpoint, in this case to dismiss the visions of saints and mystics as worthless since they are not repeatable. In any case, all ways of understanding do not fall under the rubric of science, for example, art, music and literature. But even if we follow the methods of the natural sciences, interpretation of data and the results of scientific inquiry can still be a problem.

The most extreme version of methodological monism is the twentieth-century brand of positivism known as 'logical positivism', a product of the so-called 'Vienna Circle' meetings in the 1930s. Its tenets were:

Empiricism: positivists confine 'reality' to that revealed by experience (mainly sensory) claiming that what we know we know only because the empirical evidence so far happens to point that way. Not appreciated was the fact that this experience needed to be interpreted and interpretation is tied

to the scientist's perspective or scientific paradigm. Empiricism contrasts with *rationalism*, which claims that the world is knowable only through reason, since sense data need to be connected (interpreted) in the light of reasons. The rationalists deduce facts about the world through the exercise of reason while the empiricists argue that the only way to an understanding of the world is by observation and experiment. Mathematics is the ideal for all rationalists, starting with Descartes, Spinoza and Leibniz.

Handy and Harwood, who are supporters of a strong positivist tradition, argue that rationalism is still the dominant orientation among formal model builders, giving rise to models like "game theory" and "utility theory" that confuse warranted assertions about the particular model with warranted assertions about some aspect of human behavior. ²³ They take model builders to task for not investigating the presumed connections between the model and observed behavior with any degree of thoroughness: typically it is the *internal* aspects of the model that are examined rather than matching the model to actual behavior. This is still as true today as it was at the time Handy and Harwood wrote it.

Handy and Harwood point out that *internal tests* are seldom adequate since assumptions can often seem unchallengeable, reasoning absolutely sound, and conclusions inescapable, when in instance after instance, the assumptions are later shown to be unfounded, the facts proved wrong, and errors in reasoning detected. They take econometricians to task for often "obtaining plausible numbers to provide ceremonial adequacy for a theory." A little cleverness "will get you almost any result you want" and that is why "few econometricians have ever been forced by the facts to abandon any firmly held belief". These criticisms are not easily dismissed.

Empiricism can equally be contested on the ground that even the natural sciences must make assumptions, like assuming uniformity in nature that cannot be empirically verified. But what this debate is about is where the relative dominance lies since both inevitably play a part in scientific inquiry. Descartes undertook the most original experiments in optics though believing that the way to understand Reality was through mathematics. In any case, interpretation is at work whatever approach is used though interpretation is more fundamental to empiricism.

The logical positivists put great emphasis on 'observables' though the interest today lies in the probability distributions associated with the observations, not in a single observation. This is what the statistical revolution in the 20th century has been about (Salsburg, 2001).²⁴ The fact is that empirical evidence for most decisions is just not there. David Eddy, a pioneer in the health-care quality field and in the application of statistical modeling to medicine, claims that only about 15% of what doctors do is backed by hard evidence; others put it around 20% to 25% (Carey, 2006).²⁵ This, of course, could be a reminder of the need for more empirical support in justifying decisions, since the quality of decisions depends vitally on the quality of the information behind the decision.

- Descriptive laws: science to the logical positivist is the search for descriptive laws, e.g., 'when metals are heated they expand.' Theory was viewed as systematizing descriptive laws and any theoretical entities not completely definable in observational terms were rejected. Abstract concepts like 'attitude', 'motive', 'intention' had to be given operational definitions or operational measures so as to have a concrete, observational reference. But observations are not unproblematic since observations are interpreted in the light of some conceptual schemata, perspective or scientific paradigm. The Vienna Circle members saw mathematics as essential to describing physical laws and turned to Bertrand Russell's program to reduce all mathematical concepts and truths to pure logic. (The program never succeeded, though it is now agreed that 99.9% of mathematics follows from a small part of the axiomatic theory of sets.)
- Nominalism: logical positivists recognize only individual particulars, denying that general abstract concepts like 'society' or 'market', 'beauty', 'goodness' offer any additional insight onto the world. Margaret Thatcher, when the British prime minister, seems to have been a nominalist in denying there was any such thing as 'society'! For the logical positivists, science starts with direct observation of *single* facts as if the facts were out there like apples on a tree waiting to be picked.
- Teleological explanations, that is, explanations in terms of functions, goals, and purposes and so on were considered invalid unless transformed into non-teleological form. In other words, science was to avoid interpreting things in nature or social life in terms of the function performed (as when we refer to someone fulfilling the role of buyer or researcher) or in terms of purpose (as when we say the consumer's goal is to choose the cheapest coffee from among the brands available). Such is not acceptable unless translated into a scientific (law-like) format. Teleological explanations in practice have defied such translation.
- Meaningful statements are either synthetic or analytic. A synthetic statement is an empirical one (all buyers are risk-averse), with observable facts relevant to its truth. On the other hand, an analytic statement (a purchasing agent is someone who buys on behalf of an organization) is true as a matter of definition or just follows as a matter of deduction from the meaning of the words used in the statement (e.g., a bachelor is unmarried). Any denial of an analytic statement involves self-contradiction. The Austrian school of economics, associated with such luminaries as Von Mises and Hayek, claims to be based on analytic propositions or self-evident axioms about human behavior. Synthetic statements are to be tested by verifying them. This was enshrined in the logical positivist's verifiability principle. Any assertion not conforming to the verifiability principle was either

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analytic (not in need of any confirmation, being a conceptual or definitional truth) or 'nonsensical' (just emotive as in ethics). All scientific propositions state something is or is not so. Propositions about ethics, religion, and aesthetics are in consequence cast aside as unscientific. Whether these topics are unscientific or not, they are full of meaning (significance) for the human race and it seems an absurdity to attach to them words like 'nonsensical' (even if just non-sensical).

In logical positivism, we are being asked as a first step to *interpret* whether a statement is analytic, synthetic or nonsensical as these distinctions influence all else. The logical positivists aimed to dispense with metaphysics. but an unintended consequence has been to undermine the study of philosophy since most of it fell into the category of the nonsensical. On the other hand, there is a reminder here how common it is to find some proposition being paraded as empirical (synthetic) when it is analytic, simply a conceptual truth like saying the stronger the desire for some product, the more the motivation to obtain it. And it is equally common to find views expressed as 'obviously true' (analytic) when evidence is needed in support. In life generally, it is impossible to have empirical support for everything we claim. If what someone says or writes 'makes sense', forms a coherent argument, then others are apt just to go along and demand evidence only when their concerns oblige them to do so. A.J. Ayer (1936) recommended a weaker version of the verifiability principle, namely, that a sentence is factually significant to someone if, and only if, that person knows what observations would lead him or her, under certain conditions, to accept it as being true or reject it as being false.²⁶ Ayer (1973) was to claim that his weaker principle made sense as it avoids condemning as nonsense scientific laws not reducible to descriptive experience.²⁷

The distinction between analytic and synthetic statements is still commonly (and usefully) made. We all need to be aware of what statements are true as a matter of logic and what statements require empirical support. Quine (1951), though, points out that analytic statements are not immune to empirical revision as all beliefs are answerable to experience.²⁸ Kripke (2004) adds the concept of *necessary a posteriori* truths, quoting examples that were neither simply synthetic nor analytic.²⁹ (Propositions are called 'a priori' or, alternatively, 'a posteriori 'depending on how they relate to experience: a priori if they come before experience and a posteriori if they put across experience.)

LOGICAL EMPIRICISM AND NATURALISM

Carnap, a prominent member of the Vienna Circle, substituted the term *logical empiricism* for logical positivism. Logical empiricism is a much more sophisticated version of logical positivism with the goal of science

being *explanation* (not mere description) but continuing to insist that scientific hypotheses be testable and potentially falsifiable. The particular brand of logical empiricism that presently seems to hold most sway is *naturalism*. For the naturalist, the only scientific explanation is the causal explanation. Naturalism in the philosophy of science has become the current orthodoxy though there are many critics (see Rea, 2003).³⁰

Naturalism endorses the methods of the natural sciences in interpreting reality, seeing the natural sciences as the authority on what there is in the world and what the world is like. However, while naturalism accepts methodological monism it rejects the notion that science must be built on direct sensory experience, never going beyond what is observable. It acknowledges that every scientific term cannot always be defined operationally, that is, captured or measured in observational language. This is in line with modern physics, which no longer insists on operational definitions for all concepts employed in a theory, since a concept may be useful even if never observed, like the electron. What naturalism, however, does insist on is that scientific explanations be *causal*, acknowledging there are many kinds of causal explanations.

METHODOLOGICAL EXCLUSIVISM

A parallel claim to that of methodological monism (the belief that there is only one set of scientific methods and these are the methods used in the natural sciences) is that the study of human beings requires a distinct methodology of its own, borrowing nothing from the methods of the natural sciences. Both methodological monism and the counterclaim for distinct methods for studying human action, Roth categorizes as methodological exclusivism. 31 Methodological exclusivism is not just confined to positivist writers on social science like Rudner³² who are methodological monists but those like Winch who claim the social sciences require a distinct methodology of their own.³³ Winch (1958) argues that, if the objects of study are essentially sensory data, they can typically be studied via the methods of the natural sciences. But if the object of study is human beings, acting in a way that expresses a way of life, such a study comes under the heading of the humanities and calls for methods distinct from the natural sciences. There is a danger today of replacing methodological monism with the claim that the social (human) sciences require a unique methodology of their own.

METHODOLOGICAL PLURALISM

A complete denial of methodological monism is *methodological pluralism* that rejects the claim that there is any one set of methods that provides a privileged access to reality and truth. Methodological pluralism implies

we can be an anti-positivist when rejecting methodological monism but still access, when appropriate, the methods of the natural sciences to study human behavior.

Methodological pluralism rejects any claim that there is just one set of methods that gives privileged access to studying and explaining human behavior. Whatever the controversy over Feyerabend's (1977) book *Against Method*, with its anti-objectivism thesis, it has wide appeal in arguing that there is no one way to conduct successful science and science cannot be restricted to following one set of rules, regardless of subject matter; there are just 'different methods for different topics'.³⁴ Interpretation alone, with its focus on meanings and intentions, will not answer all questions asked. As Fay (1996) says, social scientists ask questions not only about the meanings (significance) of various acts but also want to know about the *causal* factors which give rise to and support the continuing existence of certain meanings. He or she will want to identify the causes of actions.

'Critical pluralism' is methodological pluralism with the recognition of the need to subject all theories, models or hypotheses to critical scrutiny. In philosophy, there has been an undermining of faith in universal laws, absolute proof and disproof and related notions such as empirical verification, the possibility of a neutral observation language, uninterpreted facts, value-free judgments and the correspondence theory of truth (truth as corresponding to the objective facts in the world outside) as representing rationality at its best. Even physicists are beginning to entertain the notion that the laws of nature might not be fundamental in that they might not apply to other universes.

The attraction of methodological monism (as opposed to methodological pluralism) is that, in insisting on the methods used in the natural sciences, it dictates what type of evidence is acceptable as 'hard' evidence. In a world where absolute proof is unobtainable, this seems important. Not surprisingly, many worry about the relativist slant suggested by an 'anything goes' position. Even if it is not exactly a case of 'anything goes', the assertion that any justification procedure is simply whatever is accepted by the scientific community for that discipline (as suggested by Kuhn³⁵) seems to make the scientific review process sound like a 'popularity' contest. Hence some writers argue there must be universal, objective standards or rules for the conduct of science and scientific thinking, just as there are rules for valid deductive arguments. In a deductive argument we infer from premises to conclusion as in the syllogism so beloved in logic texts: All men are fallible, Socrates is a man, and therefore Socrates is fallible. The premises logically entail the conclusion, making the argument a valid one. But only if the premises are true is the conclusion also true. But an alternative position is that there can be premature closure on methods with the danger of rationally defensible methods being excluded.

Although 'anything goes' was the slogan Feyerabend (1977) used to sum up his position on choosing a methodology, Feyerabend was not (as commonly claimed) saying rationality should be abandoned but insisting that methods be evaluated by results and not by their adherence to some set of dogmatic guidelines.³⁶ He was not recommending that scientists or researchers proceed without rules but that they should expand the inventory of rules, with the recognition that there are standards operating 'locally', tied to a specific research process: his intention was not to reject rationality but to recognize it takes many forms

Neither the methods used in the natural sciences nor interpretive approaches are certain to yield true knowledge. Quine (1970), the philosopher, talks of the *underdetermination of theories* in that it is *possible* to formulate scientific theories that are empirically equivalent but logically incompatible.³⁷ But what is logically possible need not be probable. In any case, underdetermination is not universal. Kitcher (2001) illustrates this by pointing out that we still seem unable to think of a rival hypothesis to that which states that the typical structure of the DNA is a double helix with sugar-phosphate backbones and bases jutting inwards.³⁸

For Quine, theories in the natural sciences are not a mirror of reality as there is 'no unvarnished news of the world'. Quine sees knowledge as a combination of sensory evidence and subjective creation (construction) and denies we can distinguish these two elements in any analysis of knowledge. Quine's (1970) 'indeterminacy of translation thesis' maintains that there are no universal meanings or logical standards through which we can arrive at some uniquely correct interpretation of the utterances of others. He stresses his 'indeterminacy of translation' applies to all psychological theories that rely on the interpretation of verbal behavior as data (e.g., answers to a questionnaire). This has relevance to marketing research. He shows that researchers can never be absolutely sure their interpretations reflect the structure and meaning of the thought which the speaker intended to communicate. But then no scientists can be absolutely sure their theories reflect absolute truth.

There are no impartial observers of behavior; we deceive ourselves if we think there are. We are not even sure of the truth conditions for employing the concept of impartiality. All interpretations possess a quality shaped by past experiences, interests, and what things mean to us: we are not just cameras selecting and recording various scenes but infuse the scenes with something of ourselves. It is not just the Eiffel Tower that registers but *my* Eiffel Tower colored by my own past and its meanings.

The best defense of methodological pluralism or critical pluralism rests on the observation that different methods address different questions and that different methodologies go with different explanatory systems. If we insist on a methodology that is quantitative, this limits the questions we are able to ask. There is the inherent danger that the questions addressed will be those that fit some favored technique; the researcher acting like the little boy with a hammer who finds everything needs pounding (or it may be that, when all you have is a hammer, everything looks like a nail). Different