The Philosophical Foundations of Marketing Research:  
For Scientific Realism and Truth

by

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Abstract

All research has philosophical foundations. Relativism, positivism, and realism are often posed as alternative philosophies for marketing research. This chapter develops the thesis that scientific realism is an appropriate foundation for guiding marketing research. Specifically, this chapter (1) reviews the reasons why philosophers of science rejected relativism as a foundation for research in the 1970s, (2) examines the historical development of realism, (3) explicates the four fundamental tenets of scientific realism, (4) develops a scientific realist model of truth using as an example the effects of decoys on consumer choice sets, and (5) develops the scientific realist argument for truth as a research objective and regulative ideal.
All research projects have philosophical foundations. That is, when scholars engage in a research project, there are always underlying assumptions as to what entities exist (i.e., ontological assumptions), what research designs are appropriate for generating new knowledge (i.e., methodological assumptions), and what criteria are appropriate for evaluating knowledge-claims (i.e., epistemological assumptions). Marketing scholars often face a quandary when searching for a philosophical foundation to ground their research. On the one hand, when they consider relativism as a foundation, they recognize that all forms of philosophical relativism lead to nihilism. That is, all forms of philosophical relativism lead to the conclusion that all knowledge claims the researcher can possibly make are equally good, equally bad, equally right, equally wrong, equally ethical, equally unethical. Because most researchers do not wish to be associated with nihilism, philosophical relativism is unacceptable. On the other hand, when researchers consider logical positivism or logical empiricism as a foundation, they recognize that these positivistic philosophical positions have been thoroughly evaluated in the philosophy of science and have been shown to provide unsatisfactory guidelines for conducting research in both the physical and social sciences.¹

Philosophy of science researchers addressed their own version of the quandary in the 1970s. After the acknowledgement of the deficiencies of positivistic philosophy of science in the 1960s and the subsequent repudiation of relativism (of both the Kuhnian and Feyerabendian varieties) in the early 1970s, philosophers of science in the latter part of the 1970s turned sharply toward a realist orientation: “Contemporary work in philosophy of science increasingly subscribes to the position that it is a central aim of science to come to knowledge of how the world really is, that correspondence between
theories and reality is a central aim of science” (Suppe, 1977: 649). Indeed, by the late 1970s, “the majority of philosophers of science … profess to be scientific realists” (Causey, 1979: 192). Nevertheless, as Leplin (1984: 1) observes, “scientific realism is a majority position whose advocates are so divided as to appear a minority.”

Therefore, contemporary philosophy of science suggests that the quandary that marketing scholars face is more apparent than real. Specifically, contemporary philosophy of science suggest that realism is a viable foundation for all forms of research, including marketing research. Nonetheless, though realism is a majority position in the philosophy of science, the nature of realism, its characteristics, and its implications for marketing research are underdeveloped in marketing. The purpose of this chapter is to review the philosophy of scientific realism and discuss it as an appropriate foundation for marketing research. Specifically, because relativism has been argued in marketing to be a viable alternative to scientific realism, this chapter reviews several reasons why philosophers of science rejected relativism as a foundation for research in the 1970s. Then, the chapter (1) examines the historical development of realism, (2) explicates the four fundamental tenets of modern, scientific realism, and (3) develops a scientific realist model of truth that uses, as a continuing example, the effects of decoys on consumer choice sets, as reported in Heath and Chatterjee (1995). The chapter concludes by reviewing scientific realism’s argument for truth as a research objective and regulative ideal in marketing research. This argument relies on the importance of trust and ethics in marketing research.²
Why Relativism Was Rejected

To understand why philosophy of science rejected relativism in the 1970s, one needs to know what relativism is. All forms of philosophical relativism embrace two theses: (1) the relativity thesis that something is relative to something else, and (2) the nonevaluation thesis that there are no objective standards for evaluating across the various kinds of “something else” (Siegel, 1987). Some standard examples of philosophical relativism, primarily drawn from Hunt (2002a, 2003), will clarify the realism-relativism issue for readers:

1. **Cultural relativism** holds that (a) the elements embodied in a culture are relative to the norms of that culture, and (b) there are no objective, neutral, or non-arbitrary criteria to evaluate cultural elements across different cultures.

2. **Ethical relativism** holds that (a) what is ethical can only be evaluated relative to some moral code held by an individual, group, society, or culture, and (b) there are no objective, impartial, or nonarbitrary standards for evaluating different moral codes across individuals, groups, societies, or cultures.

3. **Conceptual framework-relativism** holds that (a) knowledge claims are relative to conceptual frameworks (theories, paradigms, world views, or Weltanschauungen), and (b) knowledge claims cannot be evaluated objectively, impartially, or nonarbitrarily across competing conceptual frameworks.

4. **Reality relativism** (a view often associated with constructionism), holds that (a) what comes to be known as “reality” in science is constructed by individuals relative to their language (or group, social class, theory, paradigm, culture, world view, or Weltanschauung) and (b) what comes to count as “reality” cannot be evaluated objectively, impartially, or nonarbitrarily across different languages (or groups, etc.).

5. **Postmodernism** (a view similar to reality relativism, cultural relativism, and subjectivism) holds that (a) there is a regime of local and particular truths (rather than a single truth) discovered in circular conceptions of subject-centered experiences and (b) there are no objective, neutral, or non-arbitrary criteria to evaluate subject-
centered experiences (e.g., consumption episodes) across different cultures situated in time and place. The term “post modern” should not be confused with “postmodernity” which is used at times by some to describe a particular historical period.

6. **Subjectivism** (a position often paired with relativism) holds that there is something basic to the human condition—usually something about human perception and/or language—that categorically prevents objective knowledge about the world.

To understand why relativism and subjectivism are minority views within the philosophy of science, consider how these “isms” would respond to the following six questions: “Does the sun revolve around the earth or does the earth revolve around the sun?” Conceptual framework relativism, for example Kuhn’s (1962) relativism, implies the following answer: “First I must know whether you subscribe to the paradigm of Copernicus or Ptolemy, for these paradigms—like all paradigms—are incommensurable and, therefore, there is no truth to the matter independent of the paradigm you hold.” And subjectivism implies the following answer: “Because scientists see what their theories and paradigms tell them is there, the theory-ladenness of observation tells us that an objective answer to your query is impossible.”

Question two: “Was Great Britain morally right in leading the drive in the 19th century to abolish slavery in cultures throughout the world?” Relativism responds: “Since slavery is a cultural element that cannot be evaluated independently of the norms of the culture within which it exists, no judgment on this matter can be made—to apply one’s own norms elsewhere is simply cultural ethnocentrism.” Question three: “Should Great Britain work toward the abolition of slavery in the few remaining states in which slavery continues to exist?” Answer: “See response to previous question.” Question four: “Did the Holocaust occur?” Answer: “Since the Holocaust is a “constructed” reality
(Lincoln and Guba, 1985: 84), just one of many ‘multiple realities,’ the Holocaust’s occurrence or nonoccurrence cannot be objectively appraised independent of the worldview of a particular social grouping or culture.”

Question five: “Is a culture that is tolerant of individuals from other cultures preferable to a culture that oppresses everyone outside the dominant culture?” Answer: “Although the predisposition toward tolerance is a cultural element that varies widely across different cultures, no judgment can be made across cultures as to the moral superiority of tolerant versus intolerant cultures.” Question six: “Should an academic discipline be open to the views of those outside the discipline?” Answer: “Although it is true that different academic disciplines differ in their relative openness to the views of outsiders, no judgment can be made across disciplines as to the relative desirability of such openness.”

It should be easy now to understand why relativism and subjectivism are minority views in the philosophy of science. Relativism does not imply a constructively critical stance toward knowledge claims, nor does it simply imply acknowledging that the knowledge claims of science are fallible. Relativism implies nihilism—the belief that we can never have genuine knowledge about anything. Relativists, incoherently, know that no one else can ever know anything. (If it is true that all knowledge is impossible, how can one know that “all knowledge is impossible”?) Furthermore, relativism doesn’t imply a tolerant stance toward outside ideas and other cultures; it implies indifference to the norm of tolerance. Moreover, relativism does not imply ethical sensitivity; it implies ethical impotence. Finally, subjectivism (a view usually paired with relativism) does not caution science to work at minimizing bias; it maintains that the human condition makes
the very idea of objectivity to be a chimera. Therefore,—like truth—objectivity should be abandoned.

For the preceding reasons, among others, philosophy of science rejected relativism in the 1970s. Marketing should too. The next section examines the historical development of realism, the philosophy that this chapter puts forward as appropriate for grounding marketing research.

**Historical Development of Scientific Realism**

From the very beginnings of the scientific revolution in the sixteenth century, science and philosophy were closely related. Indeed, prior to the nineteenth century, science was a branch of philosophy, and scientists were referred to as “natural philosophers.” However, this situation changed in the latter half of the nineteenth century when philosophy came to be dominated by Hegel (1770-1883) and his idealism: “He ruled the philosophical world as indisputably as Goethe the world of literature, and Beethoven the realm of music” (Durant, 1954). Hegel’s idealism was hostile to mathematics and unsympathetic to science. Its central tenet was that the external world does not exist unperceived: “All reality is [for idealism] mental (spiritual, psychical). Matter the physical, does not exist” (Angeles, 1981: 120). Thus, Hegel’s “identity of reason and reality” denied the existence of tangible objects (e.g., rocks and trees) and proclaimed only reason to be real.

Hegelian idealism’s dominance in philosophy began to crack at the turn of the century from the efforts of G. E.Moore (1873-1958) and Bertrand Russell (1872-1970), who offered three major arguments against idealism: First, idealism confuses the act of
perception with the object being perceived. Once the object of a mental act is distinguished from the awareness of it, there is no reason to deny the existence of the object independently from its being perceived. Second, idealism uses the concept *real* in ways that violate principles of intelligible discourse. That is, the meaning of the term “real” derives from such exemplars as “this table exists.” Denying the fundamental examples that give meaning to a term, while at the same time continuing its use in other contexts, produces unintelligible speech. Third, idealism constitutes sophistry, for the behaviors of idealists are inconsistent with their stated beliefs. Although they claim that objects such as chairs do not exist, when entering rooms, idealists approach and sit on chairs, just as if they believe such chairs *do* exist. The philosophy that Moore and Russell argued for was, in today’s terminology, “classical” or “common-sense” realism, whose central tenet is that the external world of tangible objects exists independent of perception.

The second crack in idealism’s philosophical hegemony developed from a discussion group at the University of Vienna that was formed in 1907 by the mathematician Hans Hahn, the physicist Philipp Frank, and the social scientist Otto Neurath. By the 1920s, the “Vienna Circle” group had added other physicists, including Moritz Schlick (1882-1936), who had studied under Max Planck and who had already received acclaim for his interpretations of Einsteinian relativity. Under Schlick’s leadership, the Vienna Circle sought a philosophy that would (1) heal the rift between science and philosophy and (2) provide a means for interpreting quantum mechanics. The philosophy they developed, “logical positivism,” was not opposed to the common-sense realism of Moore and Russell. Indeed, the positivists were allies with the realists in their
philosophical battles with advocates of Hegelian idealism. Schlick’s (1932) classic article on the foundations of logical positivism framed the idealism-realism question as: “If the phrase ‘external world’ is taken with the signification it has in everyday life, . . . [then] are there, in addition to memories, desires, and ideas, also stars, clouds, plants, animals, and my own body?” He answered: “It would be simply absurd to answer this question in the negative” (p. 101). Therefore, “logical positivism and realism are not in opposition; whoever acknowledges our fundamental principle must be an empirical realist” (p. 107).

But if the logical positivists had no problems with according reality status to tangible, observable entities, they strongly questioned giving such status to any “transcendent world” that allegedly “stood behind” the observable world, but about which nothing could be verified by observational means. Because the positivists’ “verifiability principle” equated the meaningfulness of a proposition with the possibility of its verification, for Schlick (1932: 107), “The denial of the existence of a transcendent external world would be just as much a metaphysical statement as its affirmation. Hence, the consistent empiricist does not deny the transcendent world, but shows that both its denial and affirmation are meaningless.” A major reason the positivists questioned the meaningfulness of any proposition in which transcendent or unobservable concepts are included is that they believed that this was the best interpretation of quantum mechanics. Understanding how they came to this conclusion requires at least some understanding of the world implied by quantum mechanics – a world that is anything but common-sensical.
Quantum Mechanics, Realism, and Positivism

The development of quantum mechanics began with attempts to solve the “black body” problem at the turn of the century. A black body is one that perfectly absorbs and then re-emits all radiation falling upon it. In the smoothly continuous world of classical physics, the radiation emitted from a black body would also be perfectly continuous. Max Planck, however, proposed in 1900 that the radiant energy emitted takes place only in the form of discrete packets, which he called energy quanta. Electromagnetic radiation, he proposed, is made up of a whole number of packets of energy, with each packet having the energy $h\nu$, where $h$ is Planck’s constant and $\nu$ is the frequency of oscillation. Einstein used Planck’s idea of energy quanta in 1905 to discredit the (then firmly established) view that light is fundamentally wave-like. He theorized that construing light as being made up of individual particles or photons would explain how electrons are emitted from metals by an incident beam of light. Thus was born what has become known as the wave-particle duality: light is simultaneously both wave-like and particle-like.

In 1911, Ernest Rutherford developed his solar system model of the atom, in which negatively charged electrons orbit a positively charged, nuclear “sun.” His model, however, had a major problem: if electrons could occupy any of the infinite number of possible orbits, they would spiral ever closer to the nucleus, and the atom would be unstable. A young Dane, Niels Bohr, solved this problem by applying quantum theory. He theorized that electrons could occupy only discrete orbits around the nucleus, and he used Planck’s constant to identify those specific orbits that would be possible. In 1923, Lewis de Broglie proposed that all sub-atomic particles, not just photons, are actually “wave-particles” and developed equations that connected the energy and momentum of...
any such particle with the frequency of its associated wave. Erwin Schrödinger then used de Broglie’s ideas in 1926 as a basis for accommodating the wave-particle duality through his justly-celebrated wavefunction equation. In 1927, Heisenberg proposed his indeterminacy principle: the experimental act of investigating the position (momentum) of a sub-atomic particle necessarily destroys the possibility of measuring its momentum (position) to arbitrary accuracy. At the limit, if one knows precisely where any sub-atomic particle is, one has absolutely no idea what it is doing. Dirac then used wave mechanics in 1928 to develop quantum field theory. If interrogated in a particle-like way, the formalism of quantum field theory gives probability predictions of particle behavior; but if interrogated in a wave-like way, the theory gives probability predictions of wave-like behavior.

Since the late 1920s, predictions of quantum mechanics have been confirmed in thousands of experiments. Given its radical break with classical mechanics, its interpretation prompted a great debate between Einstein, who argued for a realist interpretation, and Bohr, who, influenced by the Vienna Circle, argued for a positivist view. Bohr and his positivist allies developed an interpretation of quantum mechanics that is now referred to as the “Copenhagen interpretation,” which is often used interchangeably with “instrumentalist interpretation” and “positivist interpretation.” Its basic premise is that what we can know about the quantum world is only the effects we can observe after an intervention. As Bohr put it, “The entire formalism is to be regarded as a tool for deriving predictions . . . under experimental conditions” (Bohr, quoted in Polkinghorne, 1984: 79). That is, the uncertainty described in Heisenberg’s principle does not reflect science’s ignorance of the laws of nature – uncertainty is a law of nature.
Prior to an act of measurement (observation) it is meaningless speculation even to talk about where a sub-atomic particle really is, or its momentum, or the direction of its spin. All particles exist in a superposition of potential states.

Einstein and his realist allies attacked the Copenhagen view with appeals to (1) rhetoric (e.g., Einstein’s famous claim that God does not “play dice” with the universe), (2) “hidden variable” theories that posited entities standing behind the wave-particle duality (e.g., David Bohm’s hypothesized “pilot wave”), and (3) numerous “thought experiments.” Of the thought experiments that attempted to undermine the view that uncertainty is a law of nature, Einstein’s most famous one, with Boris Podolsky and Nathan Rosen (hence the “EPR” experiment), argued that quantum mechanics implied, at times, that the information that a particle is being investigated would be transmitted instantaneously to a second particle. Since speeds in excess of the speed of light are impossible, argued EPR, quantum mechanics violates “local reality” and must be deficient.

Bohr responded to Einstein’s rhetoric with the gentle chide that it is not for scientists to prescribe to God how He should run the world. As to the various hidden variable theories, Bohr and his positivist allies argued that such theories were ad hoc and, in any case, the hidden variables (e.g., Bohm’s “pilot wave”) seemed even more bizarre than the Copenhagen view. The Hungarian mathematician John von Neumann then joined the argument and argued that any hidden variable theory was bound to disagree with some of the verified empirical results of quantum mechanics’ experiments. After Bohr et al. had rebutted Einstein’s thought experiments, John Bell in the 1960s developed some experimentally testable consequences of the EPR thought experiment. Since then,
the results of experiments have tended to favor the Copenhagen interpretation: Einsteinian local reality seems incorrect. As the realist philosopher Putnam (1990: 8) puts it, “One cannot emphasize too strongly that only a small minority – an extremely small minority – feels any discomfort with the Copenhagen interpretation to the present day.” Indeed, the positivist, Copenhagen view, as unsettling as its nonrealistic interpretation is to many, continues to reign supreme among physicists.

Realism Since the 1930s

Realism suffered a heavy blow in the quantum mechanics debate. However, beginning in the 1960s, the “received view” that all theories (and not just quantum mechanics) should be interpreted according to the dictates of positivism began steadily losing ground to the realism now generally referred to as “scientific realism” (Suppe 1977). This realism is associated with such philosophers as Maxwell (1962), Sellars (1963), Putnam (1962, 1990), Bhaskar (1979), MacKinnon (1979), (Siegel 1983, 1987), McMullin (1984), Boyd (1984), Levin (1984), Leplin (1984), Harré (1986), Manicas (1987), and Ninniluoto (1999). However, there is no “grand theory” of science to which all scientific realists ideologically adhere. The absence of a scientific realist grand theory of science notwithstanding, Hunt (1990, 2003) argues that four theses serve as the fundamental tenets of scientific realism, which we shall refer to as classical realism, fallibilistic realism, critical realism, and inductive realism.

First, classical realism is the common-sense realism of Moore and Russell, which holds that the world exists independently of its being perceived. For example, the “external realism” advocated by Searle (1995: 150) maintains that “the world (or
alternatively, reality or the universe) exists independently of our representations of it.”

As Thagard (2007, 29-30) argues, because the best “scientific evidence strongly suggests
that the universe is over 10 billion years old, but that representations constructed by
humans have existed for less than a million,…we can infer that that there was a world
existing independent of human representation for billions of years…[and] truth is not a
purely mental matter.” Thus, classical realism contrasts with idealism and postmodernist
relativism, which hold that all reality is “in here” (the mind) and, therefore, all reality is
relative to the mind that knows it. For classical realism, there really is something “out
there” for science to theorize about. To hold otherwise is to make all of science a sham.

Second, scientific realism argues for fallibilistic realism, which maintains that,
though the job of science is to develop genuine knowledge about the world, such
knowledge will never be known with certainty. The concept of “know with certainty”
belongs in theology, not science. For scientific realism, there is no “God’s eye view,” nor
does science need one to fulfill its goal of being a truth-seeking enterprise. As Siegel
(1983: 82) puts it, “To claim that a scientific proposition is true is not to claim that it is
certain; rather, it is to claim that the world is as the proposition says it is.” As Hooker
(1985) points out, a consequence of fallibilistic realism is that scientific realism rejects
direct realism, which is the view that (1) because our perceptual processes necessarily
result in a veridical representation of external objects, (2) knowledge about external
objects can be known with certainty. Scientific realism rejects (and should reject) direct
realism.

Third, scientific realism adopts critical realism, which recognizes the fallibility of
scientist’s perceptual (measurement) processes involved in the testing for the truth-
content of knowledge-claims. For scientific realism, all of science’s knowledge-claims are provisional, subject to revision on the basis of further evidence. Critical realism stresses the importance of the continuing efforts of science to develop ever-better measures of constructs, research procedures for empirical testing, and epistemological norms for developing scientific knowledge.

In current social science, the “critical” in critical realism is used in two very different ways. First, as discussed, scientific realism is critical in that science must both critically (1) evaluate and test its knowledge claims to determine their truth content and (2) evaluate and re-evaluate the methodologies and epistemologies that inform extant scientific practice. Most scientists and realist philosophers of science accept this kind of critical realism. However, the “critical” in critical realism is also often used in the manner of Sayer (1992: 6), who states, “Social science must be critical of its object.” For Sayer’s and others’ version of critical realism, therefore, it is not enough that one be critical of science’s knowledge claims, methodologies, and epistemologies. Researchers must also be critical of society. Indeed, researchers must become social activists because social scientists “should develop a critical awareness in people and, indeed, assist in their emancipation” (Sayer, 1992: 42). Therefore, those researchers who are interested in explaining, predicting, and understanding phenomena, but who do not want to assume the role of the social activist involved in transforming society, should be cautious about self-describing their research as “critical realist” in the Sayer sense.

Fourth, scientific realism adopts inductive realism, which maintains that “the long-term success of a scientific theory gives reason to believe that something like the entities and structure postulated by the theory actually exists” McMullin (1984: 26).
Because the logical positivists believed that science’s implicit acceptance of inductive realism in the 19th century had wrongly encouraged it to believe in the absolute truth of Newtonian mechanics, they rejected inductive realism and accepted Humean skepticism’s position with respect to unobservable constructs (McMullin, 1984; Stove, 1982; Suppe, 1977). Scientific realism, in contrast, maintains that Humean skepticism, which “denies that one can progress by logical reasoning from perceptual experience to any genuine knowledge of an external world” (Watkins, 1984: 3), is wrong-headed. For scientific realism, the positivists were “throwing out the baby with the bath water.” Therefore, for inductive realism, and contrary to logical positivism and logical empiricism, concepts that are unobservable are appropriate in theories that purport to explain observable phenomena. Similarly, and contrary to Popperian falsificationism, the positive results of empirical tests—not just falsifications—provide evidence as to the truth content of the theories tested.

**A Scientific Realist Model of Truth**

The preceding section introduced the four basic tenets of scientific realism. This section develops a scientific realist model of truth that focuses on the successes and failures of empirical tests. To articulate the model, we use an example from consumer research. Heath and Chatterjee (1995) review the effects of decoys on consumer choice sets. A decoy is an option introduced into a choice set that causes preference reversals between two other options in the set. These preference reversals are referred to as “attraction effects theory,” and they contradict standard economic models of individual choice, which customarily assume all preferences to be independent of irrelevant alternatives.
Heath and Chatterjee (1995) identify five theoretical issues and assess the extent to which 95 empirical tests (found in 15 articles) support the five hypotheses of attraction effects theory. One hypothesis they examine is: “Decoys will reduce shares of lower quality competitors more that they will reduce shares of higher quality competitors” (p. 270). They report that the 15 articles they review contain 92 tests in which product attribute quality is the independent variable and competitor product market share is the dependent variable (see their Table 1). Of the 92 tests, “decoys reduced shares of lower-quality competitors 50 percent of the time (18/36) but reduced shares of higher-quality competitors only 11 percent of the time (6/56).” Comparing each combination of the higher-quality product share reduction (Change in the $C_d$ variable in their Table 1, where $n = 56$) and lower-quality product share reduction (Change in the $C_d$ variable in their Table 1, $n = 36$), 1568 of 2016 (78%) possible comparisons support the quality hypothesis, 406 of 2016 (20%) are counter to the hypothesis, and 42 of 2016 (2 %) of the possible comparisons show no statistically significant differences. We use the findings of Heath and Chatterjee (1995) on the product attribute-quality hypothesis, in particular, and the implications of their findings for attraction effects theory, in general, as continuing examples to illustrate the scientific realist model of truth.

The Model

Scientific realism, in viewing marketing research as a truth-seeking enterprise, conceptualizes truth as not an entity, but an attribute. It is an attribute of both beliefs and linguistic expressions. For example, it is an attribute of such linguistic expressions as those denoted by the labels “theories,” “laws,” “propositions,” and “hypotheses.” Recall
that the inductive realism tenet of scientific realism maintains that the long-run success of
a theory gives reason to believe that something like the entities and structure postulated
by the theory actually exists. Figure 1 is a model that explicates the meaning of
“something like theory X is likely true” and “something like theory X is likely false” in
the scientific realism approach to science.

Assume that box 1 in Figure 1 contains the linguistic expression denoted by
“attraction effects theory.” Attraction effects theory posits entities (e.g., the entities
labeled “goods,” “brands,” and “people”), attributes of entities (i.e., the identifiable
capabilities or properties of goods, brands, and people—e.g., loss aversion, higher-
quality, lower-quality, and market share), and structures (e.g., the proposition that there is
a negative relationship between the attribute-quality level of a firm’s product and the
product’s resistance to attacks from competitor’s decoys). The theory (i.e., attraction
effects theory) posits that the entities, attributes, and structures referred to in box 1 exist
in the world external to the theory (i.e., box 3). That is, the linguistic expressions that
constitute the theory in box 1 are about the world in box 3.

Path A, from box 1 to box 2, shows that some theory (e.g., attraction effects
theory) has certain implications or outcomes. That is, the theory can be used to explain
some phenomena. For example, why did fewer consumers purchase the decoy product
when the competitor product was higher-quality? They did so because “in real word
markets, price discounts move consumers from lower-quality to higher quality brands
more than from higher-quality to lower-quality brands…[and] loss aversion, the tendency
for losses to be more unpleasant than equivalent gains are pleasant, appears to be greater for quality than price” (Heath and Chatterjee, 1995: 270). The theory can also be used to predict some phenomena (e.g., “Decoys will reduce shares of lower quality competitors more that they will reduce shares of higher quality competitors”). The theory can also be used to suggest interventions (e.g., to attack competitors’ brands, use viable—not dominated—decoys).

Paths B and C show that the theory’s outcomes are sometimes successful (box 4) and sometimes not (box 5). For example, as to explanations, some competitors that have lower-quality product attributes lose more market share when decoys are present than competitors with higher-quality product attributes (which would constitute explanatory successes), but others competitors with lower-quality product attributes lose less market share when decoys are present than competitors with higher-quality product attributes (which would constitute explanatory failures). As to predictions, recall that of the 92 tests reported on by Heath and Chatterjee (1995) with product attribute quality level as the independent variable, 78% of the comparisons (of the 2016 higher-quality product versus lower-quality product share changes in the C^d variables in table 1) were successes (box 4) and 20 % were failures (box 5). As to interventions, at times the suggestions of attraction effects theory are right (e.g., sometimes the viable decoys have stronger effects on competitors’ market shares), and at times the suggestions are wrong (e.g., sometimes the viable decoys have weaker effects on competitors’ market shares). Both the successes and failures are impacted by the entities, attributes, and structures that exist in the external world (box 3), as shown by path D. In turn, the outcomes in box 2 impact (by way of path E) the entities, attributes, and structures in box 3 (e.g., when managers in
firms interpret the outcomes in box 2 as supporting the truth of attraction effects theory, and this belief then guides their future patterns of behavior).

What, then, is the import of a high or low proportion of successes (box 4), and a low or high proportion of failures (box 5)? Paths F and G represent inferences from a theory’s successes and failures to the truth-content and falsity-content of a theory. For scientific realism, a high proportion of successes, relative to failures, gives reason to believe that something like the entities, attributes, and structures posited by the theory in box 1 (e.g., the hypotheses of attraction effects theory) actually exist in the world external to the theory (i.e., they exist in box 3). That is, we infer that something like the theory posited in box 1 is likely true. The “something like,” then, equates with attraction effects theory being “approximately true” or “having truth content.” From a high proportion of failures, relative to successes, we infer that something like the theory (e.g., again, attraction effects theory) is likely false. In a sense, paths F and G depict a “weighing” of evidence, as Bunge (1967: 319) so aptly puts it. However, scientific realism, as a theory of science, does not imply that “a high proportion of successes, relative to failures” means “true with probability ‘p’.” Likewise, it does not imply that “a high proportion of failures, relative to successes” means “false with probability ‘p’.” Indeed, most scientific realists are highly skeptical of efforts that attempt to apply the logic of probability to the weighing of evidence involved in the empirical testing of theories. Also, the realist approach to truth does not equate “truth” with “truth with certainty.” As the realist Siegel (1983: 82) puts it, “To claim that a scientific proposition is true is not to claim that it is certain; rather, it is to claim that the world is as the proposition says it is.”
Returning to the study by Heath and Chatterjee (1995) on the hypotheses of attraction effects theory, note that the authors frame their conclusions consistent with scientific realism. They find that, as an independent variable, higher-quality product attributes seemed to fare best: “The meta-analysis and experiment add evidence to three lines of research suggesting that it is generally easier to increase share of higher-quality than lower-quality brands” (p. 282). Furthermore, their findings regarding higher-quality product attributes showed that: “Decoys increase shares of higher-quality targets more… than they increased shares of lower-quality targets” (p. 274). Moreover, when they, as scientific realism puts it, “weighed” the total empirical evidence, they conclude:

The asymmetric decoy effects…parallel three other asymmetries: (1) asymmetric price competition across lower-quality and higher-quality brands in real-world markets…(2) greater loss aversion to quality than to price… and (3) compromise brands drawing a larger share from lower-quality than higher-quality competitions…These disparate research streams converge on the same conclusion: It is generally easier to increase share of higher-quality brands than low quality brands (p. 282).

Therefore, Heath and Chatterjee (1995) disagree with Allenby and Rossi’s claim (1991) that income effects can explain the attraction effects. Indeed, for them, the empirical evidence to date shows that “the fact that the populations would have differed on many dimensions makes it difficult to know exactly which factors mediated the effect” (Heath and Chatterjee, 1995: 282).

**On The Scientific Realist Model of Truth**

Readers should note that truth is an attribute of beliefs and linguistic expressions, it is not an entity in the external world (i.e., truth is not in box 3 in Figure 1). Therefore, *truth* is not an entity that researchers do (or can) study. To treat truth as an entity in box
3 is to engage in reification, that is, it is “to postulate as an entity fallaciously” (Levin, 1991: 57). For example, with regard to truth, Anderson (1988: 404) asks, “Indeed, how would we know truth even if we held it in our hands?” His query is (one suspects) meant to be taken as just an instance of colorful, relativist rhetoric. Nevertheless, his reification of truth vividly illustrates the conceptual danger of treating an unobservable, intangible concept, such as truth, as if it referred to an observable, tangible object, such as an apple. By wrongly leading us to believe that truth could be held in our hands, his reification of truth, absurdly, leads us to inquire how we could recognize it with our eyes.

A common accusation by relativists is that those holding that science should seek true theories must also reify truth. For example, Zinkhan and Hirscheim (1992: 83) maintain that those who hold truth in high regard must assume that “there is an immutable truth out there which scientists can study.” However, they provide no quotations of realists or any other evidence of instances of reification – and for good reason: it is likely that no such evidence exists. Truth for scientific realists is not an entity for study, let alone, an “immutable” entity.

The scientific realist model of truth in Figure 1 prompts several observations. First, the model seems consistent with the kind of arguments advanced in the review of attraction effects theory by Heath and Chatterjee (1995). This is unsurprising, for many philosophers of science, as well as most philosophically oriented social science researchers, believe that only some version of realism can explain the actual workings of science without reducing it to a shameful charade. For example, because no rational person searches for the characteristics of a nonexisting entity, what other than the warranted belief that the entity labeled “brands” exists could motivate the search for
whether (or not) *decoy* brands prompt consumers to adopt the target’s or competitor’s brands in choice sets? Are we to believe that researchers say to themselves: “Even though I do not believe in the existence of decoy brands, I shall pretend they exist and then pretend to investigate whether (or not) such decoy brands impact on the decision to adopt the target’s or competitor’s brands, whose existence I also shall pretend to believe in?” Although disingenuous activities do take place in science, scientific realism maintains that the totality of research in the physical sciences, social sciences, and marketing is not best described as an elaborate charade.

Second, the scientific realist model of truth is inconsistent with logical positivism and logical empiricism. Even though both the logical positivists and logical empiricists held truth in high regard, both were under the spell of Humean skepticism with respect to induction (Stove, 1982). Therefore, both refused to countenance the real existence of entities that were, in principle, unobservable. Because, for the logical empiricists, only observables are real, the concept of “brands” must be simply a shorthand way of talking about a collection of observable entities. That is, the logical empiricists made a sharp distinction between “theoretical terms” and “observation terms,” with only the latter referring directly to some aspect of the world. Theoretical terms would have to be given meaning by being defined through “correspondence rules” with observation terms. However, this posed a major problem for the logical empiricists: the problem of theoretical dispensability. Called the “theoretician’s dilemma” by Hempel (1965), the first half of the dilemma is: if all theoretical terms can be defined through correspondence with observation terms, and if the purpose of science is to determine relationships among observation terms, then theoretical terms are unnecessary in science. The second half of
the dilemma is: if theoretical terms cannot be defined through correspondence with observation terms, then theoretical terms are meaningless and, surely, are unnecessary in science.

For scientific realism, the “theoretician’s dilemma” is no dilemma at all. Scientific realism dismisses the theoretical term/observation term dichotomy as a false dichotomy. That is, scientific realism acknowledges that all the terms in a theory are, properly speaking, “theoretical terms.” The expression “theoretical term” means nothing more than “a term in a theory.” For scientific realism, some terms in a theory may denote something more observable, more detectable, more easily measurable than other terms. In fact, some terms may denote nothing, in principle, observable at all. However, all the terms in a theory (excepting, of course, mathematical and logical terms) can legitimately claim to denote the existence of some entity, such claims being based on (1) the senses (classical realism) and/or (2) the success of a theory (inductive realism).

Third, the model in Figure 1 is inconsistent with strict falsificationism. As were the logical empiricists, Popper (1972) was strongly influenced by Humean skepticism (Stove, 1982). For Popper (1972: 86, 88; italics added), “I regard Hume’s formulation and treatment of the logical problem of induction . . . as a flawless gem . . . a gem of priceless value . . . a simple, straightforward, logical refutation of any claim that induction could be a valid argument, or a justifiable way of reasoning.” Thus, Popper (1972), by claiming that all positive results of a theory test are irrelevant to science (not a “justifiable way of reasoning”), fell into a form of irrationalism (Stove, 1982). In terms of Figure 1, falsificationism would maintain that, whereas the inferences of path F are not a justifiable way of reasoning, the inferences of path G are justifiable. The scientific
realist model of truth – in accord with the actual practice of science – maintains that both paths F and G are defensible.

**For Truth as a Research Objective and Regulative Ideal**

We turn now to scientific realism’s argument for truth as a research objective and regulative ideal. The argument is based on trust. What is trust? Trust exists when one has confidence in another’s reliability and integrity (Moorman et al., 1993). In turn, the confidence of the trusting party in the trustworthy party’s reliability and integrity is associated with the belief that the trustworthy party has attributes such as consistent, competent, honest, fair, responsible, helpful, and benevolent (Dwyer and LaGace, 1986; Larzelere and Huston, 1980; Rotter, 1971). The importance of trust is recognized across disciplines and research traditions.

In the marketing of services, Berry and Parasuraman (1991: 144) find: “Customer-company relationships require trust.” Indeed, they contend, “Effective services marketing depends on the management of trust because the customer typically must buy a service before experiencing it” (1991: 107). In marketing education, Huff, Cooper, and Jones (2002) find that trust has consequences important to the success of student project groups. In strategic alliances, Sherman (1992: 78) concludes that “the biggest stumbling block to the success of alliances is the lack of trust.” In retailing, Berry (1993: 1) stresses that “trust is the basis for loyalty,” and Ganesan (1994) finds trust as influencing a retailer’s long-term orientation. In relationship marketing, Morgan and Hunt (1994) find that trust promotes cooperation, increases the likelihood that conflict will be of the functional kind, and decreases uncertainty. In international marketing, Hewett and
Bearden (2001) find that a multinational’s subsidiary having trust in the headquarter’s marketing function will increase the subsidiary’s acquiescence to headquarter’s direction. In the brand equity area, Chaudhuri and Holbrook (2001) find brand trust to impact purchase loyalty and attitudinal loyalty. In competition theory, Hunt (2000: 235–37) explicates how resource-advantage theory can explain the relationships among trust, competitive advantage, and wealth.

In short, trust is a key concept in many different literatures. What, then, are the relationships among trust, science, realism, and ethics?

Trust, Science, Realism, and Ethics

Zaltman and Moorman (1988) explore the factors determining whether marketing managers actually use the research generated by marketing research departments. The key factor, they find, is trust: “Perhaps the single most important factor affecting the use of research is the presence or absence of trust” (1988: 16). Indeed, a major requirement for developing and maintaining trust is “being a truth teller” (1988: 20). Thus, truth and trust are interrelated.

Scientific realism views trust as a key construct for understanding the dynamics of scientific disciplines. Trust is essential in all disciplines because scientific knowledge is a shared form of knowledge; it is shared with its clients. The clients of commercial marketing researchers are limited in general to the organizations that purchase the research. However, the clients of academic marketing researchers include not only marketing practitioners, but also students, government officials, consumers, other academicians, and members of the general public (Hunt, 2002a; Monroe, 1988). In
essence, all researchers who share their research with clients state implicitly: “Trust me.”

Thus, science and trust are interrelated.

One consequence of the importance of trust in science is for those whose research projects are guided by philosophies maintaining that the research does not “touch base”—path D in Figure 1—with a reality external to the researcher’s own linguistically encapsulated theory, or paradigm, or research tradition, or worldview. Such philosophies provide no grounds for the client trusting the knowledge claims of the researchers and are self-defeating for practicing researchers who might adopt them at the “workbench” level.

**Trust and Ethics**

Studies indicate that a difficult ethical problem facing marketing researchers is “misinterpreting the results of a research project with the objective of supporting a predetermined personal or corporate point of view” (Hunt et al., 1984: 312). Because such biases would destroy trust, marketing associations are paying more attention to marketing’s codes of ethics. It has been long-recognized that one of the major, distinguishing characteristics that separates professions from other vocations is that all true professions have a degree of self-control by means of formal and/or informal codes of ethics. An underlying tenet of all such codes is that the true professional, when interacting with clients of any kind, is not guided totally by self-interest. For example, when people go to physicians, they have a right to expect that their physicians will not adopt methods of treatment based solely on which method will best serve the physicians’ interests. Because of the disparity in knowledge of diseases and their respective treatments, the social compact between laypeople and their physicians requires a significant element of trust. Scientific realists philosophers of science are coming to
realize that both trust and ethics are interrelated keys to understanding scientific communities.

Rom Harré has been at the forefront of those philosophers advocating the importance of, in his terms, “moral order” in science. Harré (1986) defines scientific knowledge as “trustworthy knowledge,” rather than truth with certainty: “Science is not a logically coherent body of knowledge in the strict, unforgiving sense of the philosophers’ high redefinition, but a cluster of material and cognitive practices, carried on within a distinctive moral order, whose main characteristic is the trust that obtains among its members and [the trust that] should obtain between that community and the larger lay community with which it is interdependent” (1986: 6). What, for him, is trust? “To trust someone is to be able to rely on them in the matter in question. . . . Scientists believe that things personally unknown to them are as another scientist says they are.” However, “trust is not maintained by telling each other only literal truths. Under that constraint the members of the community would perforce remain forever silent. It is enough that they tell each other what they honestly believe to be the truth” (1986: 12). In this regard, Harré is claiming that the moral order of science implies, among other things, the avoidance of sophistry and deception, as well as outright fraud.

Harré points out that trust in all societies is often role-related: “it is because the trusted one is in the role of parent, guardian, policeman, research supervisor, and so on, that the trust is there until something happens to upset it” (Harré, 1986: 21). Therefore, scientists in their role as researchers producing trustworthy belief are required by their peers and by the lay community to maintain a moral order. This moral order is necessary, Harré argues, because researchers are involved in producing “practically reliable
scientific knowledge.” This “reliance might be existential, concerning what there is or what might be, or it might be practical, concerning what can and cannot be done, or both. The moral quality of the product comes through clearly in the kind of outrage felt by the [scientific] community at the disclosure of scientific fraud” (Harré, 1986: 13). Harré asks: “Is scientific method . . . and scientific morality, the fiduciary act of committing oneself to make one’s scientific utterances fiduciary acts, the best way to discipline a community which exists to find out about the natural world?” (Harré, 1986: 26). Harré answers this question affirmatively on the basis that science is committed to referential realism, which holds that “existence is prior to theory, and . . . truth and falsity migrate from the epistemology of science to the morality of its human community” (1986: 6). For Harré, any view of science that claims that scientific knowledge is “constructed” or “created” by the scientific community independent of some external reality (Path D in Figure 1) is to be rejected on moral grounds. He summarizes his position as follows:

<<BEGINEXTRACT>>

Science has a special status, not because it is a sure way of producing truths and avoiding falsehood, but because it is a communal practice of a community with a remarkable and rigid morality at the heart of which is a commitment that the products of this community shall be trustworthy. . . . Science is not just a cluster of material and cognitive practices, but is a moral achievement as well. . . . Antirealism, which, like it or not, seeps out into the lay world as antiscience, is not only false, but morally obnoxious. (Harré, 1986: 7)

<<ENDEXTRACT>>

Marketing researchers have numerous clients for the knowledge they produce. Concerning marketing knowledge, its development, and dissemination, does the trust that these constituencies have in marketing researchers impose certain special responsibilities on them? If so, what is the nature of these responsibilities, and what does it imply about the most appropriate philosophy to guide marketing science? Philosophies based on
relativism, constructionism, and deconstructive postmodernism would seem to be unlikely candidates for inspiring trust. Most assuredly, no set of philosophical foundations can guarantee the production of trustworthy knowledge. Nevertheless, researchers can find comfort in the fact that there exist philosophies of science—such as scientific realism—that, at the minimum, are not antithetical to truth and its surrogate, trustworthy knowledge, and, at the maximum, may (fallibly) yield knowledge that is truly worthy of clients’ trust. Although the clients of marketing researchers can ask for no more, they surely deserve no less.

In conclusion, there are numerous “isms” in the philosophy of science, for example, logical positivism, logical empiricism, idealism, relativism, scientific realism. Of all these “isms,” scientific realism seems to make the most sense for marketing, for no other philosophy is coherent (without being dogmatic), is critical (without being nihilistic), is open (without being anarchistic), is tolerant (without being relativistic), is fallible (without being subjectivistic), and – at the same time – can account for the success of science. It is a good candidate for providing a philosophical foundation for marketing research.
NOTES

1 The exception is, of course, quantum mechanics. The “Copenhagen” interpretation of quantum mechanics, which is the dominant interpretation in physics, is guided by and consistent with positivism. See Hunt (2003) for more on the issue of realism, positivism, and quantum mechanics.


Figure 1  Scientific Realism: Theory Successes, Failures, and Truth

Source: Adapted from Hunt (2002b). Reprinted by permission of the author.
REFERENCES


