

ONTOLOGY RECAPITULATES PHILOLOGY:¹ WILLARD QUINE, PRAGMATISM, AND RADICAL BEHAVIORISM

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Willard Van Orman Quine died on Christmas Day, 2000, at the age of 92. He was possibly the greatest living American philosopher, and he was a member of the editorial board of this journal since its origin in 1972. Appropriately enough, he was cited three times in two articles appearing in the issue just preceding his death. He lived what appears to have been a wonderful life, described in his autobiography, *The Time of My Life*, published in 1985 and reprinted in 2000—a life of travel, prestigious awards, and impressive scholarship mixed with humor, elegant dinners, fine wines, Harvard, and Beacon Hill.

I will first describe briefly the range and the depth of Quine's contributions, not necessarily those that touch directly on psychology. The total of his work ranges from the logical bases of mathematics through *Quiddities* (1987) to references to Monty Python. Then I will comment on his relation to psychology and to B. F. Skinner. He was influenced by and *must* have influenced Skinner, particularly concerning the nature of language and the heavy reliance on context to define meaning. Or did the influence run the other way—did Skinner convince Quine that language was crucial? In any event, Quine and Skinner shared the view that private experience and self-awareness are tied inextricably to language and thus are largely a creation of the verbal community. Finally, I will describe Quine's questioning of the distinction between analytic and synthetic propositions, which promoted a pragmatism that was not clearly to Skinner's taste but which follows from some interpretations of Skinner's doctrines and has been promoted by his descendants.

Quine's "wonderful life" began in relatively humble beginnings in Akron, Ohio, followed by study at Oberlin College and at Harvard. The Oberlin undergraduate degree took four years and he said that his A-minus average testified that, ". . . my seriousness had not been unflagging" (Quine, 1987, p. 73). He had done well in his major, mathematics, but felt that he had not always

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¹ This three-word sentence appears on the flyleaf of Quine's *Word and Object* (1960), which may be his best work, according to his son, Douglas Boynton Quine, at <http://www.wvquine.org>. The site was visited 42,040 times between July 4, 1996 and March 26, 2001. Quine attributed "Ontology recapitulates philology" to James Grier Miller, whom he did not cite in the book—but he did cite Wittgenstein and Whorf.

understood as much as he should have. There was more “pleasure” in “Stetson’s course in psychology, where we read Watson on behaviorism . . .” (1987, p. 59). He wanted a graduate degree but recoiled at the prospect of a career teaching the staples of mathematics. He also liked philosophy, but again, the thought of endlessly lecturing on the classic philosophers was unappealing.

Fortunately, he was destined to do neither—he was able to combine his mathematical and philosophical interests so as to avoid the distasteful aspects of both. He was accepted as a graduate student in philosophy at Harvard, and he and his fiancée Naomi hitchhiked to Boston. He earned a Ph.D. in philosophy under Alfred North Whitehead in two years; it was 1932 and he was 23 years old.

With that first wife, he spent “a great year” on a traveling fellowship in Europe and returned to Harvard as a junior fellow in 1933. Two years later he was a Harvard faculty member—an instructor teaching a graduate lecture course in mathematical logic in the Department of Mathematics and a seminar in the philosophy of mathematics in the Philosophy Department.² Eventually he earned a reputation as someone who intimidated mathematicians in the way that most people are intimidated by mathematicians.

Monty Python, Ted Kaczynski, and “Quine” as Adjective and Verb

He made his reputation in mathematical logic and set theory, as well as in treatments of the problems of ontology, questions about the nature of existence that had also concerned the ancient Greeks (e.g., Quine, 1948, 1951). At the same time, talks were given with titles like, “Themes in Contemporary Analytic Philosophy . . . as Reflected in the Work of Monty Python” (Hardcastle, 1993), and he was the object of newspaper articles titled “O. J. Meets Willard Quine” (Johnson, 1995). Ted Kaczynski (the Unabomber) was a student of his, though he did not remember him in 1996, so he looked up Ted in his records—Kaczynski tied for top in the class, with a 98.9% average.³

He appeared in videos⁴ and wrote a book, *Quiddities* (1987), comprising a dictionary of often-idiosyncratic definitions, while other dictionaries, including the *Oxford English Dictionary*, used his name to create an adjective, a verb, and a noun:

Quinean –adj. “Of, pertaining to, or characteristic of Willard Van Orman Quine or his theories.” (Burchfeld, 1982)

Quine –v. “(1) To deny resolutely the existence of importance of something real or significant. Some philosophers have quined classes, and some have even

² Such courses were not popular then, any more than they are now. His mathematics course began with five students and ended with three, along with many auditors. Nobody enrolled in the seminar, but there were auditors and one “volunteered to enroll so as to keep it going” (Quine, 1985, p. 125).

³ *Beacon Hill Paper*, May 15, 1996, p. 11.

⁴ As do many scholars of the modern age. Willard Van Orman Quine Videos, Philosophy 416 assignments and discussion questions from Colin at <http://www.tamu.edu>.

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quined physical objects.” Occasionally used intr., e.g., “You think I quine, sir. I assure you I do not!” (2) n. The total aggregate sensory surface of the world; hence quinitis, irritation of the quine.” (Dennett, 1987)

quine /kwi:n/ [from the name of the logician Willard V. Quine, via Douglas Hofstadter] –n. A program that generates a copy of its own source text as its complete output. Devising the shortest possible quine in some given programming language is a common hackish amusement. (Raymond, 1996)

He liked the poet and essayist Jorge Borges, as do I, and he typed his doctoral thesis on a 1927 Remington typewriter, which he was still using in 1996. But he “had an operation on it” to change a few keys:⁵

“I found I could do without the second period, the second comma—and the question mark.”

“You don’t miss the question mark?”

“Well, you see, I deal in certainties.”

He generated countless quotable lines—words that stick with us, such as:

Life is what the least of us make most of us feel the least of us make the most of.⁶

The last one was a line in a letter to an unknown recipient, dated November, 1946, found in a handwritten journal by his son, Douglas Boynton Quine (footnote 5).

Quine and Skinner

The Harvard Society of Fellows began with four founders, including Quine’s mentor, the eminent philosopher and logician Alfred North Whitehead and A. Lawrence Lowell, retiring president of Harvard. Lowell donated a million dollars, and Eliot House was fitted with a paneled lounge and dining room that featured what was said to be the breakfast table of Oliver Wendall Holmes. A class of about eight Junior Fellows was to be chosen each year, college graduates “from anywhere” (Quine, 1985, p. 108), who would be offered a stipend, room and board, and use of Harvard’s libraries, laboratories, and classrooms for a three-year term. There were no formal duties—this was a sweet deal indeed.

The group of Junior Fellows would later comprise 24 members, some rotating on and off each year. But the first class, of six, was outnumbered by the Senior Fellows, a group that included the original four founders, along with the President of Harvard, the Dean of Arts & Sciences, and a seventh man, a member of the Harvard Corporation. They all met on Monday evenings for sherry, dinner, and

⁵ *Beacon Hill Paper*, May 15, 1996, p. 11

⁶ Appearing on Q3—Quine Quotation Queries, February 19, 2001, Quine web page.

conversation. A candlestick was set at each place, along with a two-pound block of silver, engraved with the fellow's name.

Quine and B. F. Skinner were selected for membership in the first group of six Junior Fellows at Harvard in 1933. Clearly, the two were similar in fundamental ways, but did Quine influence Skinner and thus play a part in the development of radical behaviorism? Was the influence reciprocal? Bill Verplanck (personal communication, February 20, 2001) thinks the latter:

I had half completed a post [email] on Van Quine's death when others took note of it. The *New York Times* had a well-researched obit on this great logician/behaviorist which, however, lacked the emphasis of the profound influence that Skinner and Quine had on one another's work. . . .⁷ Through the years of my close relationships (administrative, social, and academic) with Fred Skinner (1946-1955), Quine was a relatively frequent topic of Fred's conversation, more so during the Indiana years than later, when I did not see Fred almost daily.

Both had been greatly affected by their years as Junior Fellows, when Whitehead was associated with this small group. Through Whitehead, Bertrand Russell also contributed to their intellectual development ("There is thinking, and 'I' is a pronoun." Right?) During those years, Quine was there in the background, as attested (at one remove) by one of his students who took my course in Exptl. Psychology at Harvard. In this course, we did a good bit of shaping human behavior. This activity was promptly recognized as meshed, closely related to, with what one student had been "doing" in philosophy; he was immediately at home. He went me one better, and did a bit of research of his own contrivance. His results were straightforward, and led to the fuller research that produced my paper on The Control of the Content of Conversation: Reinforcement of Statements of Opinion.

However, according to Paul Meehl (personal communication, August 6, 2001), Quine had absolutely no influence on Skinner. In Meehl's view, *no one* influenced Skinner, though Skinner influenced others. Meehl corresponded with Quine and was a long-time intimate of Skinner, who was:

. . . of course, one of the smartest people I ever met, and I've known some plenty smart people. He saw a smart critic—who took the trouble of *understanding* him—as an opportunity to test his ideas and sharpen his sword. He dismissed second-raters who read him carelessly or advanced stupid objections.

He suggests that Skinner, like Einstein and Freud, was single-mindedly independent of others, aside from their use as what appears to be sparring partners. Yet, the neopragmatism of Quine could not have failed to have had *some* influence on Skinner—we all know that our colleagues influence our general views, as well as our level of mental functioning. We become more intelligent in "smart" surroundings and less intelligent in other milieus, as we all learn early in life. But

⁷ That was the piece by Richard Rorty. According to Paul Meehl, Skinner "would have puked had he read Rorty, which he wouldn't even bother to do" (personal communication, August 6, 2001).

if Meehl is right, perhaps the effect was only to sharpen Skinner's arguments against extreme pragmatism.

Skinner's passion for language and his conviction that verbal behavior is crucial in establishing our "reality" was certainly shared by Quine, for whom "ontology recapitulates philology." So, perhaps surprisingly, Skinner's influence on Quine lies there, in the appreciation of language and its relation to basic questions regarding existence! That is, Skinner may have influenced Quine more than vice versa, and perhaps that influence was philosophical and even *metaphysical*. Consider the following.

Quine read John B. Watson in a psychology course in 1928 at Oberlin (Quine, 1985, p. 59). That may have influenced his psychology more than did his membership with Skinner in the group of 13 Junior Fellows. Skinner's influence was philosophical, as Quine wrote (1985, p. 110):

One of the Junior Fellows that first year was the psychologist B. F. Skinner. Fred exceeded the age limit by well over a year . . . Fred and I were congenial, sharing an interest in language and a behavioristic bias in psychology. It has been wrongly assumed that I imbibed my behaviorism from Fred; I lately learned from his autobiography that in fact my exposure to John B. Watson slightly antedated his. It was particularly in language theory, rather, that Fred opened doors for me. My linguistic interest had run to etymological detail; he put me onto Bloomfield and Jespersen and gave me a first American edition of John Horne Tooke.

Tooke was a philologist who wrote a critique of Locke's "New Theory of Ideas" in 1786. Quine noted that (1981):

The greatest part of Mr. Locke's essay, that is, all which relates to what he calls the abstraction, complexity, generalization, relation, etc., of ideas, does indeed merely concern language. (p. 67)

Most readers will know that these mental operations refer to what Locke called "reflection." Tooke argued that this is all linguistic (1786), and Quine (1981) noted that this shows that the idea of *idea* itself does not meet empiricist standards. If this notion, that the representational theory of ideas is vacuous, came to Quine via Tooke via Skinner, that is a tremendous influence by Skinner on Quine.

Language: Meaning and Context

Whether Quine was influenced by Skinner's interpretation of language (verbal behavior) and private experience or whether the two simply held similar views may be open to question; what is clear is that Quine cited Skinner in describing his own views on language and experience. A clear example is Quine's heralded *Word and Object*, published in 1960.

In a section titled "The Ontogenesis of Reference" (pp. 80-124), he followed Wilhelm Wundt, Skinner, and others in asserting that meaning—the referent for a term used by an individual—is understandable only in present context and " . . . in

the perspective of the development of the individual or the race” (p. 80). Consider what he called *stimulus meaning* on page 33:

A stimulus meaning is the stimulus meaning of a sentence for a speaker at a date; for we must allow our speaker to change his ways. Also it varies with the modulus, or maximum duration recognized for stimulations. For, by increasing the modulus we supplement the stimulus meaning with some stimulations that were too long to count before. Fully ticketed, therefore, a stimulus meaning is the stimulus meaning *modulo n* seconds of sentence S for speaker *a* at time *t*. (Quine, 1960)

Quine frequently referred to the dependence of meaning on context, including historical context, a point emphasized by Skinner many times. The following passages come from Skinner’s *About Behaviorism* (1974):

Until fairly recently, linguistics and literary criticism confined themselves almost exclusively to the analyses of written records. If these had any meaning, it was the meaning for the reader, since the circumstances under which the behavior had been produced by the writer had been forgotten, if they were ever known. . . . By dividing such records into words and sentences without regard to the conditions under which the behavior was emitted, we neglect the meaning for the speaker or writer, and almost half the field of verbal behavior therefore escapes attention. (p. 109)

Quine clearly followed Skinner in the more mundane issue of the acquisition of vocabulary; he referred to the babbling of late infancy as “emitted” behavior, which is selected by consequences. Citing Skinner’s *Science and Human Behavior* (1953) and his *Verbal Behavior* (1957), Quine described in detail how the child’s chance utterance brings a “reward” in the form of approbation by a parent. He noted that an uttered “mama” may be accompanied by the sight of the mother’s face but by chance cues like a specific room or a breeze may be salient, so there must be repeated occasions pairing sound and object before reliable naming occurs. The child may hear the father say “mama” while mama is visible in peripheral vision—the child may happen to look at the mother and so receive applause and confirmation. Quine appears to have followed Skinner in his appreciation of functional stimulus and response *classes*, illustrated here in the myriad ways that the mother may be “named”—through speech, looking at her, and other ways.

Language and Private Experience

Skinner’s interpretation of private experience is well known (e.g., 1953, 1974; Malone & Cruchon, 2001) and was largely shared by Quine. In brief, we interpret the private experience of others via their speech and actions and the vocabulary for doing this is taught by our society. We may also judge our own private experience by observing our actions, as when we say, “I was hungrier than I thought.” Quine held similar views (1960):

As illustrated by “Ouch,” any subjective talk of mental events proceeds necessarily in terms that are acquired and understood through their associations, direct or indirect, with the socially observable behavior of physical objects. (p. 264)

If there is a case to be made for mental states as actually-existing things, the case must therefore rest on the same arguments used to justify the existence of molecules—we infer them based on observable manifestations.

Quine, like Skinner, assumed the existence of an objective physical reality,⁸ though he was by no means a material monist or a Cartesian dualist. In *Word and Object* (1960), he was clearly fond of referring to “surface irritations,” or the physical basis for sensations, as equivalent to what we might call “experience.” Thus, scientific method attempts to connect theory with all possible “surface irritation” (p. 23). Perhaps he was just fond of this expression, but it does bring to mind the image of Ryle’s (1949) ghost in the machine, illustrating the law of specific nerve energies by some entity *interpreting* “surface irritations.” But if Skinner can seem vague and contradictory (see Malone, 1999), there is no reason to deny that privilege to Quine. Maybe the question becomes moot when we think more about sensation.

Philosophy and Psychology: Revising Reality

Pragmatism

Quine was greatly influenced by the logical positivism of Schlick and (especially) Carnap, with whom he spent time during his traveling sabbatical. But he went far beyond them in casting out metaphysics. Rather than treat sensation as the *sine qua non* in defining experience and conferring meaning, Quine was thoroughly pragmatic, in the sense that Charles S. Peirce was a pragmatist.

For Peirce, terms and statements of a science are not fixed, nor are they the products of immutable logic. Rather, the definitions of basic terms change as a science develops. Since the meaning of a term like “air” consists of all of the possible effects that air may have on our senses, including the results of experiments carried out on air, the meaning of “air” changes. When Priestley “discovered” oxygen, the concept “air” changed, and when Lavoisier showed that water could be electrically decomposed to two gases, the concepts of both water and air changed. In a sense, water and air became different entities. But was it just our *conception* of water and air that changed? Were water and air *really* always what they “naturally” were?

⁸ Skinner referred more than once to physicalism. By this I mean the assumption that there is a physical reality independent of our experience of it. This is a metaphysical matter and a real pragmatist or positivist would treat it as nonsense. But Meehl (personal communication, August 6, 2001) testified that Skinner believed in objective truth and that he therefore would disagree with the pragmatists, for whom truth must be a constantly changing thing.

This question lies at the heart of the difference between radical behaviorism and the rest of psychology, most of which assumes *realism*, not pragmatism.⁹ The rest of psychology, like folk psychology, assumes an objective reality that exists independent of our knowledge of it. Any alternative is unthinkable to most people, since most people are not pragmatists when it comes to ontology. Protagoras, who lived during the 4th C BC, may have been the first pragmatist, but it was Peirce who most clearly defined pragmatism. That was in 1877 (Barrett & Aiken, 1962), and Peirce's basic insight was elaborated (and distorted) by William James early in the 20th Century. The treatment of meaning by radical behaviorists is not identical to pragmatism, but close; since the entire subject matter of psychology is assumed to be *activity*, there is no "real" reality existing independently of our activity with respect to it. As activity, including "mental" activity changes individually and collectively, "reality" changes. In other words, "reality" undergoes constant revision.

Quine was critical of Peirce and wrote of the shortcomings of pragmatism (e.g., 1960, p. 23), but nonetheless he seemed to champion this plastic view of reality, feeling that it is vain to seek the *nature* of things, since everything is describable/knowable only in the language in which the question of existence has been put. There are many languages, as sets of symbols with which to describe nature, but there are no objects describable in the *abstract*, independent of the language of description.¹⁰ Some things are "theoretical," and some are "matters of fact." But these are merely differences in degree as our concepts evolve. Skinner's position was similar, as expressed in 1974:

One scientist said that "there is excellent reason to believe that the whole of chemistry is explicable in terms of electrons and the wave functions which describe their location. This is an enormous simplification of thought." It certainly is an enormous simplification—or would be, if feasible—but it is the simplification of verbal and practical behavior rather than of thought. (p. 117)

But Skinner did what Skinner often did—he left a real (metaphysical?) world that seems to be independent of our reaction to it:

The referents of concepts are in the real world; they are not ideas in the mind of the scientist. They are discoveries or inventions simply in the sense that a verbal environment has evolved in which obscure properties of nature are brought into the control of human behavior. (p. 118)

However, Quine and Skinner agreed that whatever that world is, there is no stable and unique *real* world. What specific referent *could* correspond to the label, the "*real world*?"

⁹ Baum (1994) eloquently describes the pragmatic interpretation of the progress of science. This is modern radical behaviorism, but Skinner would not wholly endorse it. The opposition between pragmatism and realism is not forced, however, as pointed out by Staddon (2001).

¹⁰ Of course, Quine cited Whorf (1956).

Synthetic and Analytic Propositions

The Logical Positivists attempted to enclose science in a propositional system, contrary to Peirce's (1962) analysis, and it was Quine who recognized that there is no logical framework of guaranteed truths with which to organize and interpret statements about nature. To say that there is no unchanging and trusty rational system is saying that there are no analytic propositions that are true by definition *because* they are definitions. The analytic/synthetic issue was prominent in Kant's (1781/1929) critique of Hume; Kant interpreted Hume as assuming the *a priori* truth of analytic statements, such as "bodies have mass," but denying the same to synthetic statements, such as "bodies have weight." Bodies must have mass, since that defines them, but they need not have weight. We say that they have weight when we detect acceleration downward, but that is *a posteriori*, after the fact of experience. Kant believed that the necessity of time and space as preconditions for experience meant that we possess an *a priori* framework in which nature must be cast—thus, there are *a priori* synthetic truths.

For Quine, the certainty that had been assigned to analytic statements: definitions, mathematics, and logic, was misplaced and analytic statements were susceptible to revision when occasioned by later experience. He argued this in "Two Dogmas of Empiricism," published in 1951. Peirce (1962) had argued that logical statements—the framework of science—and empirical observations were *malleable*, but Quine pressed the issue and thereby contributed to the demise of logical positivism.

Another Way of Putting It—What's Real?

Quine seemed pleased with "Things and Their Place in Theories," the first chapter in *Theories and Things* (1981), that distilled the content of a dozen or so lectures given all over the world, as well as several published articles. It dealt with ontology, including the definition of "object," determinism, time/space, mind/body, science, and theories. The heart of his argument is his challenge to the assumption that there are "matters of fact" and that these are separate from our theories that explain their behavior. "Factuality," as he called it, "like gravitation and electric charge, is internal to our theory of nature" (p. 23). So matters of fact are *themselves* theories—all knowledge is theory. And there may be many incompatible theories of reality, each of which explains everything and they could all be right! How can such a view have any similarity to Skinner's view, since Skinner appeared to deny the utility of theories of *anything*?

But what are objects that constitute Quine's reality? They turn out to be reified physical bodies, with not-so-clear boundaries, that we theorize to be objects. They require four dimensions to identify/locate, since time is involved. In fact, a physical body is not even essential, and we can deal merely with place/times. Those who quake at the thought of time as part of the definition of an object or who think that time has been altered somehow are " . . . unduly nervous

folk who overestimate the power of words” (p. 19). Remember that this is *theory* and there are no matters of fact.

Quine felt that he was carrying on Jeremy Bentham’s “semantic primacy of sentences” (1981, p. 11) and that a statement like, “That is the same apple” reflects the operation of a large network of internalized hypotheses. Note that this is all the *methodology of ontology*—of course, Quine believed in objects and, to a lesser degree, in atoms and electrons. But all of these beliefs are the contrivances of animals affected by sensory stimulation—proxy functions that we take to be an objective reality. Other proxy functions might work as well and produce a different world, equally valid, and we can switch from one to another, much as William James described “The Many Worlds” in 1890. There is often a “confusion of truth with evidential support” (Quine, 1981, p. 21).

Determinism is easy to deal with—it boils down to “Que será será and to afford at best a great idea for a song . . . ” (1981, p. 11). Actually, it depends (of course) on an unknown causal chain containing reference to the agent’s motives, a view similar to Wundt’s treatment of will. If this chain contains links that could be called motives or drives, we may call the activity “free,” though “these motives or drives themselves be as rigidly determined as you please” (1981, p. 11).

Does it make sense to wonder how well science can deal with nature? Can we ask, “how far our science measures up to the *Ding an sich*” (1981, p. 20)? That question evaporates for Quine, who proposes that philosophers of science assumed that we are:

. . . proceeding by contextual definition to construct a language adequate to natural science. It is an attractive idea, for it would bring scientific discourse into a much more explicit and systematic relation to its observational checkpoints. My only reservation is that I am convinced, regretfully, that it cannot be done. (1981, p. 20)

This is so because two or more incompatible “manuals of translation” can in principle both do justice to all aspects of nature—and it is not a question of which is “right.”

Quine the Private Person

The Time of My Life was written by what appears to be a very happy man, full of energy and enthusiasm for his work and fond of his many social engagements. But Quine described himself in the last pages as taciturn and introverted, the kind of person who admitted his “practice down the decades of preparing copious notes for the classroom and writing my public lectures in full” (p. 477). Almost all of his work was done alone. It is easy to empathize with such a person, who also can be subject to “spells of nostalgia, loneliness, anxiety, or boredom.” At such times he escaped into his projects—or he manipulated numbers (p. 476):

I am apt today, as of yore . . . idly to compute—determining e.g., that the number of acres that can be circumscribed in a mile is just under fifty-one, or

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that the distance in statute leagues of the horizon at sea is the square root of the height of the eye in fathoms. (Look, no coefficients.) I have gained facility in manipulating big numbers.

Quine believed that his strongest emotion was impatience, as felt when wanting to complete a task. Poetry aroused other powerful emotions—he was “easily moved”—so he avoided poetry. That seems surprising, given the sober rationality that we associate with mathematicians and logicians.

Quine’s Influence on Psychology

Radical Behaviorism needs all the friends it can get, so powerful are the rival folk psychologies that are always dominant. Willard Quine was not a radical behaviorist, but he was close enough. His writings are both eloquent and entertaining, dealing with the most fundamental questions that we can ask—what is the nature of existence, what do we know of it, and how do we come to know it? Twenty-first century academia focuses on topics that are likely to appear in newspaper headlines—violent and overweight children, working parents, depressed adolescent girls, social relationships, “optimism and hope research,” spirituality, and similar superficial fare.

Ontology and epistemology are not popular topics, but Quine could render them fascinating through his use of clear prose, simple sentences, and catchy expressions. Recall the discussion of the extent to which we can know private experience, both of ourselves and of others, which begins, “As illustrated by ‘Ouch’ . . . ,” and the reader’s attention is captured. Quine’s writings benefited us all by improving the intellectual climate, making epistemology and ontology accessible to ordinary people. As behaviorists, we should have known him better.

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