On Mark Twain

The Best from *American Literature*

Edited by Louis J. Budd and Edwin H. Cady

Duke University Press Durham 1987

Printed in the United States of America
on acid-free paper ∞
Second Printing, 1989
Library of Congress Cataloging in Publication Data
appear on the last printed page of this book.

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Series Introduction

From Vol. 1, no. 1, in March 1929 to the latest issue, the front cover of *American Literature* has proclaimed that it is published "with the Cooperation of the American Literature Section [earlier Group] of the Modern Language Association." Though not easy to explain simply, the facts behind that statement have deeply influenced the conduct and contents of the journal for five decades and more. The journal has never been the "official" or "authorized" organ of any professional organization. Neither, however, has it been an independent expression of the tastes or ideas of Jay B. Hubbell, Clarence Gohdes, or Arlin Turner, for example. Historically, it was first in its field, designedly so. But its character has been unique, too.

Part of the tradition of the journal says that Hubbell in founding it intended a journal that should "hold the mirror up to the profession"—reflecting steadily its current interests and (ideally) at least sampling the best work being done by historians, critics, and bibliographers of American literature during any given year. Such remains the intent of the editors based at Duke University; such also through the decades has been the intent of the Board of Editors elected by the vote of members of the professional association—"Group" or "Section."

The operative point lies in the provisions of the constitutional "Agreements" between the now "Section" and the journal. One of these provides that the journal shall publish no article not approved by two readers from the elected Board. Another provides that the Chairman of the Board or, if one has been appointed and is acting in the editorial capacity at Duke, the Managing Editor need publish no article not judged worthy of the journal. Historically, again, the members of the successive Boards and the Duke editor have seen eye-to-eye. The Board has tended to approve fewer than one out of every ten submissions. The tradition of the journal dictates that it keep a slim back-log. With however much revision, therefore, the journal publishes practically everything the Board approves.

Founder Hubbell set an example from the start by achieving the

almost total participation of the profession in the first five numbers of *American Literature*. Cairns, Murdock, Pattee, and Rusk were involved in Vol. 1, no. 1, along with Boynton, Killis Campbell, Foerster, George Philip Krapp, Leisy, Mabbott, Parrington, Bliss Perry, Louise Pound, Quinn, Spiller, Frederick Jackson Turner, and Stanley Williams on the editorial side. Spiller, Tremaine McDowell, Gohdes, and George B. Stewart contributed essays. Canby, George McLean Harper, Gregory Paine, and Howard Mumford Jones appeared as reviewers. Harry Hayden Clark and Allan Gilbert entered in Vol. 1, no. 2. Frederic I. Carpenter, Napier Wilt, Merle Curti, and Grant C. Knight in Vol. 1, no. 3; Clarence Faust, Granville Hicks, and Robert Morss Lovett in Vol. 1, no. 4; Walter Fuller Taylor, Orians, and Paul Shorey in Vol. 2, no. 1.

Who, among the founders of the profession, was missing? On the other hand, if the reader belongs to the profession and does not know those present, she or he probably does not know enough. With very few notable exceptions, the movers and shakers of the profession have since the beginning joined in cooperating to create and sustain the journal.

The foregoing facts lend a special distinction to the best articles in *American Literature*. They represent the many, often tumultuous winds of doctrine which have blown from the beginnings through the years of the decade next to last in this century. Those articles often became the firm footings upon which present structures of understanding rest. Looking backward, one finds that the argonauts were doughty. Though we know a great deal more than they, they are a great deal of what we know. Typically, the old best authors wrote well—better than most of us. Conceptually, even ideologically, we still wrestle with ideas they created. And every now and again one finds of course that certain of the latest work has reinvented the wheel one time more. Every now and again one finds a sunburst idea which present scholarship has forgotten. Then it appears that we have receded into mist or darkness by comparison.

Historical change, not always for the better, also shows itself in methods (and their implied theories) of how to present evidence, structure an argument, craft a scholarly article. The old masters were far from agreed—much to the contrary—about these matters.

But they are worth knowing in their own variety as well as in their instructive differences from us.

On the other hand, the majority of *American Literature*'s authors of the best remain among us, working, teaching, writing. One testimony to the quality of their masterliness is the frequency with which the journal gets requests from the makers of textbooks or collections of commentary to reprint from its pages. Now the opportunity presents itself to select without concern for permissions fees what seems the best about a number of authors and topics from the whole sweep of *American Literature*.

The fundamental reason for this series, in other words, lies in the intrinsic, enduring value of articles that have appeared in *American Literature* since 1929. The compilers, with humility, have accepted the challenge of choosing the best from well over a thousand articles and notes. By "best" is meant original yet sound, interesting, and useful for the study and teaching of an author, intellectual movement, motif, or genre.

The articles chosen for each volume of this series are given simply in the order of their first publication, thus speaking for themselves and entirely making their own points rather than serving the compilers' view of literary or philosophical or historical patterns. Happily, a chronological order has the virtues of displaying both the development of insight into a particular author, text, or motif and the shifts of scholarly and critical emphasis since 1929. But comparisons or trend-watching or a genetic approach should not blur the individual excellence of the articles reprinted. Each has opened a fresh line of inquiry, established a major perspective on a familiar problem, or settled a question that had bedeviled the experts. The compilers aim neither to demonstrate nor undermine any orthodoxy, still less to justify a preference for research over explication, for instance. In the original and still current subtitle, *American Literature* honors literary history and criticism equally—along with bibliography. To the compilers this series does demonstrate that any worthwhile author or text or problem can generate a variety of challenging perspectives. Collectively, the articles in its volumes have helped to raise contemporary standards of scholarship and criticism.

This series is planned to serve as a live resource, not as a homage

to once vibrant but petrifying achievements in the past. For several sound reasons, its volumes prove to be weighted toward the more recent articles, but none of those reasons includes a presumed superiority of insight or of guiding doctrine among the most recent generations. Some of the older articles could benefit now from a minor revision, but the compilers have decided to reprint all of them exactly as they first appeared. In their time they met fully the standards of first-class research and judgment. Today's scholar and critic, their fortunate heir, should hope that rising generations will esteem his or her work so highly.

Many of the articles published in *American Literature* have actually come (and continue to come) from younger, even new members of the profession. Because many of those authors climb on to prominence in the field, the fact is worth emphasizing. Brief notes on the contributors in the volumes of their series may help readers to discover other biographical or cultural patterns.

Edwin H. Cady
Louis J. Budd

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Science in the Thought of Mark Twain

Hyatt Howe Waggoner

MARK TWAIN lived the last fifteen years of his life a bitter pessimist and a philosophical mechanist. He came to despair of the possibilities of human life. He came to think of man as a machine buffeted by an indifferent, if not hostile, mechanical universe. Such an outlook was not unique in his generation. The cold drafts of the new scientific doctrines were chilling the hearts of many men who had known the snugness of a God-centered, benevolent world. So at once this question arises: Can Mark Twain's experience be likened to the typical experience of many thinking men in his generation?

Critics seem to differ on the question whether or not Mark Twain's experience was in any way comparable to that, for instance, of Henry Adams. Professor Percy H. Boynton says that it was:

> Science overthrew the Christian mythology for him [Mark Twain], reduced the world to a "little floating mote," reduced mankind to a biological genus, reduced him to a philosophy of pessimism. . . . With his religious belief, never strong, unsettled by the theories of a mechanistic philosophy, and his fears as to humankind reinforced by the brute facts, Mark Twain came to the crisis in which he had no creed to appeal to and could rely only on a pattern of behavior. . . . [Mark Twain's thinking] was at the same time all his own and quite in the current of nineteenth-century thought.[1]

Professor Stanley Williams agrees:

> As the implications of the Darwinian theory filtered through our thought, skepticism crept into the conversation and writings of eminent Americans. . . . Throughout his life he [Mark Twain] retained a consciousness of the goodness of life, an innate belief in the antiquated, benevolent universe, and, for this reason, the impact of subversive thought upon him was terrific, devastating. . . . His adolescence had been influenced by the new

[1] Percy H. Boynton, *Literature and American Life* (Boston, 1936), pp. 635, 644, 642.

Puritanism, that is, an orderly universe ruled by a benevolent God, but he was shocked by the logic of Lyell or Darwin.[2]

But Miss Brashear has advanced the thesis that Mark Twain's philosophy can be traced back to literary sources, to his early reading in the literature of the eighteenth century. She feels that the distinctive features of his thought come from Thomas Paine, or, possibly, from Hobbes, Locke, Hume, and Mandeville.

Mark Twain's philosophy of life, one is forced to conclude, must have had its foundation in the more rigid eighteenth-century trends of thinking. . . . From the first part of *The Age of Reason* Mark Twain as a young man might have got his initial glimpse of the mechanical theory of human life, which he finally formulated into a philosophical system. Part I explains the principles of Newtonian deism as based on the phenomena of planetary motion. . . . As has been said, Mark Twain's thought was not much touched by nineteenth-century speculative philosophy. It remained within the limits of the narrower experiences of the preceding age. In its main lines it seems to follow the doctrines of Hobbes (1588-1679), one of the precursors of English deism, and of Locke, Hume, and Newton.[3]

And Ludwig Lewisohn feels that Mark Twain's pessimism was the result of purely personal experience, and that his philosophy was puerile and entirely without a foundation in knowledge:

He was Tom Sawyer and Huck Finn and the Connecticut Yankee and when youth and romance and boundless optimism went out of his life, he reacted very much as they would have done, as thousands of simple-hearted Americans in agnostic and atheistic societies and clubs do all over the land and consider themselves bold thinkers. . . . Mark Twain had no suspicion, apparently, of the existence of either anthropology or psychology, or any knowledge of the growth and function of *mores* and their connection with the totality of human development. . . . He sat down to develop out of his own head, like an adolescent, like a child, a theory to fit the facts as he seemed to see them, and the only influence discernible in his theory is that of Robert Ingersoll![4]

To determine which of these attitudes is the more nearly correct, we have to know just what Mark Twain knew of science, what

[2] Stanley T. Williams, *American Literature* (Philadelphia, 1933), pp. 122, 124, 125.

[3] Minnie M. Brashear, *Mark Twain: Son of Missouri* (Chapel Hill, N. C., 1934), pp. 242, 247, 248.

[4] Ludwig Lewisohn, *Expression in America* (New York, 1932), pp. 227, 226, 225.

books he read, and how true it is to say, as Mr. Lewisohn says elsewhere in his criticism, that the doctrines in *What Is Man?* were "puerile" when they were written. Such knowledge should be of interest not only to students of Mark Twain, but to those interested in the history of ideas in the period; for, if he really reacted to science as Professor Williams thinks he did, his experience can stand in our minds for the experience of a generation.

A study of the *Notebook,* the *Letters,* the *Autobiography,* the official *Biography,*[5] and several unpublished sketches, discloses a knowledge of science that, while not profound or in any sense rigorously accurate, was nevertheless inspired by enthusiastic interest, and was, for the average layman of the day, comparatively comprehensive.[6] Mark Twain was well acquainted with the theory of organic evolution, and had accepted it, probably, even before his first reading of Darwin.[7] He had a philosophically sound, if not scientifically detailed, knowledge of the main outline of anthropology. This knowledge was, in fact, one of the principal bulwarks of his deterministic philosophy.

He had a very keen interest in, and some knowledge of, geology,[8] with its evidence for evolution and its time-scale that dwarfs all human history and makes the individual human life so insignificant an event as to be invisible to the observer accustomed to the majestic pulses of geologic time. Already in 1880, before his pessimism had taken definite philosophical shape, a letter to his friend

[5] A. B. Paine (ed.), *Mark Twain's Notebook* (New York, 1935); A. B. Paine (ed.), *Mark Twain's Letters* (New York, 1917); *Mark Twain's Autobiography* (New York, 1924); A. B. Paine, *Mark Twain, A Biography* (New York, 1912). Hereinafter these works will be referred to simply as the *Autobiography,* the *Letters,* the *Notebook,* and the *Biography.*

[6] For Mark Twain's references to science, see the later footnotes to this paper. He once made a record of his likes and dislikes thus: "I like history, biography, travels, curious facts and strange happenings, and science. I detest novels, poetry, and theology." See the *Biography,* p. 512.

[7] His connection with Macfarlane makes it seem probable that he accepted some form of evolutionary theory before reading Darwin. For the Macfarlane episode see *Autobiography,* I, 146, 147. For other evidence of his attitude toward evolutionary theory see the letter from A. B. Paine included in this paper; see also *Letters,* pp. 769, 770, 804; *Biography,* pp. 397, 708; *Notebook,* pp. 242, 264; *Autobiography,* II, 7ff. Negatively, there is at least no record of there having been any question in his mind about the truth of the theory as compared with the dogmas of revealed religion with which it came into conflict. That this was not the case with most men is shown especially well in a book on which Mark Twain spent one whole summer: A. D. White, *History of the Warfare of Science with Theology* (New York, 1896).

[8] See scattered casual references: *Letters,* pp. 383, 827; *Biography,* pp. 436, 1162; W. D. Howells, *My Mark Twain* (New York, 1910), p. 98.

Joseph Twichell was filled with his sad sense of geologic time and the comparative insignificance of even the greatest of human affairs. This time-scale, he felt, was the real one, the time-scale of the universe; our own years and lifetimes and centuries are but the pitiably meaningless measurements of microbes in the body of the universe.[9] But his grasp of geologic history was more than merely poetic and imaginative; it attempted also to be practical. As early as 1870 he and J. T. Goodman of *Enterprise* days were spending all their leisure time one happy summer sorting and classifying fossils they found in an abandoned quarry at Quarry Farm, Elmira. Nor did the interest in geology abate with the years. Near the end of his life, Mark Twain invited the geologist R. D. Salisbury from the University of Chicago to come to the new home at Stormfield to explain and classify the geological formations there.

He had a keen and lasting interest in astronomy, and an imaginative grasp of its implications, although his memory for its distances and speeds was somewhat inaccurate.[10] In 1870 in a statement of his religious convictions, set down after his revolt from family prayers, he gave figures for the distance to the nearest fixed star, and tried to conceive of the immensity of the universe. From that date on there occur notations of astronomical facts and speculations.

He arrived at an unshakable belief in absolute determinism;[11]

[9] See especially "If I Could Be There" and "3000 Years Among the Microbes," selections included in the *Biography,* pp. 1158-1161; 1663-1670.

[10] See especially *Letters,* p. 17; *Biography,* pp. 1509, 1518, 1542; the letter from Mrs. Gabrilowitsch included in this paper. Note the percentage, out of the total list of scientific books he is known to have read, of books on astronomy. As in his history game for memorizing dates and visualizing their relations to each other and to the present, so in astronomy he liked to make concrete the unimaginable figures, by converting them into familiar terms of experience.

[11] The doctrine of determinism, as used to denote the belief of Mark Twain, means something essentially different from what we mean today by the "predictability" of events. Quantum physics, with the theory of "indeterminacy," and wave mechanics, have combined to make the Victorian concept of strict causal relation seem theoretically mistaken, if practically useful. Predictability is still taken for granted as the basis for science and thought in all but quantum physics; but predictability on the basis of confidence in the law of averages, and predictability on the basis of an assumed inviolable mechanical relationship are, metaphysically speaking, quite distinct. For a statement of Mark Twain's position, see Ernst Haeckel's *The Riddle of the Universe* (New York, 1900), *passim,* or T. H. Huxley's *The Advance of Science in the Last Half Century* (New York, 1898), pp. 32, 33, *passim.* For the contemporary position see A. S. Eddington, *The Nature of the Physical World* (New York, 1931), pp. 200-229, or his *New Pathways in Science* (New York, 1935), pp. 23 ff.; and Sir James Jeans, *The Mysterious Universe* (New York, 1933), pp. 24, 28, 30, 33, 46, 145; and Hermann Weyl, *The Open World* (New Haven, 1932), p. 55.

and his belief was scientifically grounded. If it was not inspired by science, it found, at any rate, ample support therein, especially in the emphasis on heredity and environment postulated by Darwin's theory of evolution.[12] Mark Twain's idea, "We are but a compost heap of decayed heredities,"[13] shows where he put his emphasis in his analysis of human life. Such a statement as this, too, while it shows little of the scientific background that undoubtedly existed in his mind, does reveal a coherent theory based on a monistic concept of nature quite in accord, for instance, with that of Ernst Haeckel:

> When the first living atom found itself afloat in the great Laurentian sea the first act of that first atom led to the *second* act of that first atom, and so on down through the succeeding ages of all life, until, if the steps could be traced, it could be shown that the first act of that first atom has led inevitably to the act of my standing here in my dressing gown at this instant talking to you.[14]

That was the reigning scientific theory of his day carried to its logical conclusion.

As for psychology, there is no evidence that he had any real knowledge of the subject. But that is not strange, for psychology in his day could hardly be termed a science. It consisted of many conflicting opinions of many men, and even the modicum of agreement on first principles that has perhaps been reached today was yet to come. But several entries in the *Notebook* suffice to make doubtful the assertion that he had no suspicion even of its existence. He speculated on the theory of dual, or multiple personalities, existing independently within one individual, the possibility of attaching meaning to dreams; and he dabbled in theories of telepathy.[15]

There is little definite evidence, in anything that Mark Twain ever wrote, of the source of all this mixed knowledge and speculation. He was neither a systematic student of science, nor a persistent and profound thinker; and he had nothing of the scholar's love of documentation and reference. It was possible, however, from the preliminary study, to say definitely that he had read carefully

[12] For the emphasis on heredity and environment, see Mark Twain's essay *What Is Man?* For determinism see *Letters*, pp. 719 ff.; *Biography*, p. 397; *Notebook*, p. 312; *Autobiography*, II, 9.

[13] *Notebook*, p. 312.

[14] *Biography*, p. 397.

[15] *Notebook*, pp. 248-252; *Autobiography*, II, 222.

Lecky's *History of European Morals,*[16] J. H. Moore's *The Universal Kinship,*[17] Bayne's *Pith of Astronomy,*[18] A. D. White's *History of the Warfare of Science with Theology,*[19] Darwin's *Descent of Man,*[20] something of Sir Oliver Lodge's,[21] and some books on ants by Sir John Lubbock.[22] Despite the presence of the names of Darwin and Moore and Bayne, the list might seem insufficient to account for his knowledge of facts and theories. Two letters, however, the first from his official biographer, the second from his daughter, go far to make up the deficiency:

Mark Twain [says Mr. Paine] read all those books you mention, and many others—everything, in fact, that came to his hand. Darwin influenced him in the beginning, and all of them, perhaps, a little; but he was too original in his thought to be influenced much or long by anybody. He read Wallace and Crooks and Kelvin in a desultory way, as he read all the others. The only book he kept by him was not a scientific work: it was Suetonius' *Lives of the Caesars.* He loved the drama and wonder of science, but the pageant of history more.[23]

Mrs. Gabrilowitsch adds:

In addition to the books you have listed as having been read by my father, I am only able to mention a few more on which he spent a good deal of time. They were:

"The Pith of Astronomy"	Bayne
"Evolution and Ethics"	Huxley
'The Wonders of Life"	Haeckel
"The Heavens"	Guillemin
"Side Lights of Astronomy"	Simon Newcomb
"The Cycle of Life According to Modern Science"	Saleeby

[16] Lecky's book was published in 1877. Mark Twain read and reread this book for many years, making notations in the margin as he studied it (*Biography,* pp. 511, 1539). His thorough acquaintance with Lecky, one of the first scientific historians of morals, makes it seem improbable that he "had no knowledge of the growth and function of *mores.*" His ideas on the subject, different as they may be from contemporary theories, should not be confused with ignorance.

[17] Published 1906. An exposition of scientific monism, based on cosmic and organic evolution, devoted to showing our physical, psychical, and ethical relationship with the universe. See *Letters,* II, 804.

[18] Published 1896. A popular handbook of facts and figures. See *Biography,* p. 1542.

[19] Published 1896. See *Biography,* pp. 1506, 1539.

[20] Published 1871. See *Biography,* p. 1540.

[21] Mark Twain quotes from Lodge in "3000 Years Among the Microbes."

[22] See *Notebook,* p. 283.

[23] Mr. A. B. Paine, in a letter to H. H. Waggoner. Quoted by permission of Mr. Paine.

"Curiosities of the Sky"	Serviss
"Aspects of the Earth"	S[h]aler
"Sound"	Tyndall

He had periods of being especially absorbed in the accounts of astronomical discoveries, and would pore over the vast figures noted, by the hour. His memory stood him in good stead, too—in these studies. The rapidity of the passage of light and yet the time required for it to reach us from the other planets was one of the topics he never tired of discussing. He was never attracted to subjects which demanded a knowledge of deeper mathematics, for his natural inclination was always stronger toward more poetic and mystic subjects; although I remember his saying that mathematics did not lack poetry either.[24]

We do not know when Mark Twain read these books; and so no accurate check on the connection of the ideas found in them with the very general ideas and attitudes outlined in his writings is possible. But by an examination of the dates of publication,[25] and a comparison of these with what he was thinking at definite periods of his life,[26] we can reach at least a negative conclusion: the list of eighteen names seems still to be incomplete, for it is insufficient to account for certain passages that appear in the *Notebook* and *Letters* and *Biography* as early as 1870. He had some very definite knowledge of geology, for instance, long before he could have read N. S. Shaler's *Aspects of the Earth,* the only geological book on the list.[27]

The ideas which he found in these books can best be briefly indicated by listing, first, the main assumptions in the scientific metaphysics of the day, and secondly, the chief scientific advances of

[24] From a letter from Mrs. Clara Clemens Gabrilowitsch to H. H. Waggoner. Quoted by permission of Mrs. Gabrilowitsch. The books referred to as having been "listed" (like those to which Mr. Paine refers) are those mentioned above the letters in this text, with the exception that Bayne's *Pith of Astronomy* was omitted, having been overlooked in the preliminary study.

[25] The publication dates of the books in Mrs. Gabrilowitsch's letter, reading from top to bottom beginning with Huxley, are: 1894, 1904, 1871, 1906, 1904, 1889, 1867.

[26] Entries in the *Notebook* in 1895 make it appear that his philosophy was complete by that time, substantially as we find it in *What Is Man?,* written in 1898. Miss Brashear says that we must look for the real source of his philosophy before 1874, but it seems to me that 1885 would probably be nearer to the truth.

[27] It is possible, perhaps, that he may have picked up his geological knowledge from his acquaintances of his mining days in Nevada; the fact that it was an old friend of those days with whom he sorted fossils, may point to that conclusion. It seems probable to me, however, that he had read Lyell before this time, though there is no conclusive evidence for the opinion, beyond his connection with the learned Macfarlane, and the fact that his reading of Darwin might have led him to Lyell.

the age. According to Huxley, the first principles underlying scientific monism were three in number and quite simple:[28] (1) matter, which was thought of as a "substratum" behind the appearance of the phenomenal world, and which was said to exhibit the properties of extension, impenetrability, and mobility, and the principal quality of inertia; (2) energy, capable of moving this inert substance; and (3) the law of mechanical causality. Whitehead's list of the chief scientific advances of the period may be simplified, for our purposes, to three main ideas which might have influenced the thinking of the average man acquainted with science in a more or less superficial way:[29] (1) the re-emphasis on the idea of atomicity, due to the work of Dalton, Lavoisier, and others; (2) the principle of the conservation of energy; and (3) the theory of organic and cosmic evolution. These advances in scientific thought were linked to the first principles in a dual relationship: they were both the result and the confirmation of the metaphysics on which they were based. If their philosophic basis is kept in mind, these ideas lead to certain interesting implications.

In the first place, the stress on the *atomic* nature of matter seems to give supreme place in the search for truth to the scientific method of *analysis;* emphasis on analysis of the realities of experience into their simpler or more primitive component parts leads the layman to the "nothing but" philosophy. The principle of the conservation of energy leads to the belief in the essentially *quantitative* nature of reality. And the theory of evolution as developed by Darwin and Wallace and expounded by Huxley and Haeckel stresses *natural law,* the indifference of the impersonal universe to our personal desires and hopes, and the fact that we are "nothing but" animals more or less developed. These are some of the implications that might be drawn from nineteenth-century science.

As a matter of fact, they correspond closely with the doctrines held by Mark Twain. They form a sort of background from which most of the ideas in *What Is Man?* follow. In that much derided essay, the following ideas are stressed: (1) man is a machine, both his mind and his body;[30] (2) as a machine, he has no "free will"

[28] T. H. Huxley, *The Advance of Science in the Last Half Century* (New York, 1898), pp. 31-33.

[29] A. N. Whitehead, *Science and the Modern World* (New York, 1931), pp. 143-147.

[30] *What Is Man? and Other Essays* (New York, 1917), p. 5 and *passim.*