

sympathy for others—both objects and other human beings. This sympathy increases to the point of merging with them in the present moment and in all future time. The other realization is a prideful superawareness of singular self. Hence, there is a strong, intense awareness of uniqueness and separateness coexisting with the merging.

They are reconciled in the poem. The panorama may be routine and mundane, but the reality that exists within that perceived circle never is.

Whitman's ferryboat moved in its mundane everyday course across the East River past beautiful seagulls, ships, the "scallop-edged waves" as well as past grimy industrial docks and foundry chimneys lighting up the night sky. During the flood tide, half an hour before sunset, the poet yearned for the flow of time and space to cease, but realized at the same time that life by definition is motion.

The sudden intuition of an inner nature which contained not only the transcendental oversoul but also the wolf, the snake and the hog, and his fellow passengers knowing that inner self (calling him by his "nighest" or nearest name) took place in that mundane and exalted moment, in a museum without walls. "Crossing Brooklyn Ferry" is the catalogue of that museum as well as a statement of Whitman's faith in the power of the imagination. And, unlike the three miles of canvas wound on Banvard's cylinders, Whitman's panorama needs no space. It revolves forever around the sacred spool of the poet's eternal imagination.

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NOTES

- 1 *Prose Works 1892*, ed. Floyd Stovall (New York: New York University Press, 1963), 1:16.
- 2 For a detailed study of the effect panoramas may have had on Whitman's poetry see Charles Zarobila's "Walt Whitman and the Panorama," *Walt Whitman Review*, 25 (1979), 51-58. Other American writers who refer to panoramas include Longfellow, Thoreau, Whittier, Melville and Mark Twain. Curtis Dahl's "Mark Twain and the Moving Panoramas," *American Quarterly*, 13 (Spring, 1961), 20-32, is a study of the possible influence of Banvard's panorama on Twain. See also Dorothy Anne Dondore, "Banvard's Panorama and the Flowering of New England," *New England Quarterly*, 11 (December 1938), 817-826.
- 3 *Leaves of Grass*, Comprehensive Reader's Edition, ed. Harold W. Blodgett and Sculley Bradley (New York: New York University Press, 1965), p. 678.

TWO LAMARCKIANS: WALT WHITMAN AND EDWARD CARPENTER

Lamarckian theory is one link between Walt Whitman and the English prose-writer and poet, Edward Carpenter (1844-1929). Jean Lamarck (1744-1829), French evolutionist, theorized after long years of academic investigation the following two biological laws: (1) the development of effectiveness of organs are proportional to the use of those organs; and (2) everything acquired or changed during an

individual's lifetime is preserved by heredity and transmitted to that individual's progeny. Lamarckian theory attempted to explain the natural causes of the origin of and variations among species. Lamarck did his scientific examinations and published his principles in the early 1800s. His biological tenets were accepted by his peers as a number of scientific investigators independently came to the same conclusions, the most famous of these men being the English physician and poet (and grandfather of Charles Darwin) Erasmus Darwin (1731-1802).

Charles Darwin (1809-1882) utilized Lamarckian thought in his own writings when explaining small fluctuations and variations. Darwin claimed that long exposure to environmental influences causes adjustments of the organic system of both animals and humans. Darwin contended that specific affected areas of the body produced "pangens" in the nonreproductive cells called "somatic cells." These pangens travel from the site of production through the blood stream to reach and then imbue their nature into the reproductive cells known as "germ cells." He then professed that the new characteristics of these pangens are genetically expressed and transmitted to the following generations. These changes were considered biologically advantageous for the survival of the species and treated as inherited acquired characteristics.

Some classical examples can be offered: the stretching of the giraffe's long bones of the front legs to reach the higher foliage as its natural habitat turned into desert; or the development of large air sacs in birds in their transition to reptiles (these air sacs prepare and permit birds to endure long flights). The Lamarckians believed that species respond to natural needs and do not rearrange their parts in response to blind chance. Although Charles Darwin both publicly and privately defamed Lamarck's reputation, a careful analysis of his voluminous works indicates that a common thread binds together the stroma of Darwin's theories which are based on Lamarckian convictions.

Lamarckian biological beliefs were accepted by many American scholars, and these "neo-Lamarckians" were led by the naturalist Edward Drinker Cope (1840-1897) of the University of Pennsylvania. A number of social scientists incorporated Lamarckian ideas into their interpretations of the growth and development of society. The great western historian, Frederick Jackson Turner (1861-1932), adopted social neo-Lamarckism in explaining the development of democratic principles in the governing of the new towns of the expanding frontier of the Far West. Turner's thesis posited that during a period of scarcity the first settlements had a need for sharing and community cooperation in order to survive; although, after a period of time, the frontier pushed on, the cooperative town hall meetings remained in cities that were no longer near any wilderness. Social neo-Lamarckism also was the guiding theme of the father of American public education, Horace Mann (1796-1859). Mann, much like Lamarck, believed in the pliancy of both nature and society and that humans could be molded to perfection.

As a foundation for his upright morality, Whitman strongly favored Lamarckian laws of action and conduct over the hypotheses of social Darwinism. The Lamarckian sway in Whitman's evolutionary thoughts is substantiated in James T. F. Tanner's unpublished doctoral dissertation, "Walt Whitman: Poet of Lamarckian Evolution."¹ Whitman, a humane man in every sense of the word, could not endorse the practical demonstrations of the social Darwinist's discourses. In the 1870s and 1880s the Darwinists formulated the apparent relationships between the struggle for

existence and the survival of the fittest as a social theory to justify world militaristic expansion, and social Darwinists spoke in favor of such things as the containment of the American Indian, the Asiatic Exclusion Acts, the limiting of civil rights of the recently freed Black people, and world political and economic expansion.

Whitman's support of Lamarckian theory was expressed in "Song of Myself."

My feet strike an apex of the apices of the stairs,
On every step bunches of ages, and larger bunches between
the steps,
All below duly travel'd, and still I mount and mount.

Rise after rise bow the phantoms behind me,
Afar down I see the huge first Nothing, I know I was even
there,
I waited unseen and always, and slept through the lethargic
mist,
And took my time, and took no hurt from the fetid carbon.

Long I was hugg'd close—long and long.

Immense have been the preparations for me,
Faithful and friendly the arms that have help'd me.

Cycles ferried my cradle, rowing and rowing like cheerful
boatmen,
For room to me stars kept aside in their own rings,
They sent influences to look after what was to hold me.

Before I was born out of my mother generations guided me,
My embryo has never been torpid, nothing could overlay it.²

Whitman recognized that evolutionary changes take place over long periods of immense duration. The last two lines—"Before I was born out of my mother generations guided me, / My embryo has never been torpid, nothing could overlay it"—indicate the influence of remote time on the biological development of past generations which reveals itself in the developing embryos of today. Whitman did not envision the early developing organism to be in a rigid state and organically smothered by biological change, but to be, rather, in a state of flux.

The reading of *Leaves of Grass* greatly influenced Edward Carpenter's evolutionary thought. He visited Whitman in Camden, New Jersey, on two occasions, in 1877 and in 1884. During both brief stays, Whitman's personality and strong faith in Lamarckism penetrated Carpenter's philosophical thoughts. His first impression of Whitman was expressed in the following manner:

... I never met any one who gave more the impression of knowing what he was doing than he did. Yet away and beyond all this I was aware of a certain radiant power in him, a large benign effluence and inclusiveness, as of the sun, which filled out the place where he was—yet with something of reserve and sadness in it too, and a sense of remoteness and inaccessibility.³

Carpenter's most impressive and most illuminating book, *Civilisation: Its Cause and Cure*, revealed his utopian ideal that man must demonstrate a greater altruistic nature. He took the opportunity in this fact-finding study to call for the reduction of man's reliance on technological advancement and suggested that we return to a naturalistic society. This perfect social system would be based on equal distribution of property and wealth. He prefaced Chapter 5, "Exfoliation: Lamarck versus Darwin," with Whitman's words, "Creation's incessant unrest, exfoliation." The term, "exfoliation," implied that the driving force of life appeared to cast off species' outer layers in order to allow new variations to emerge. Time is nature's exfoliative. Carpenter understood that biological needs caused by use and disuse of an organ produced expected changes. He offered both biological and social Lamarckian examples to illustrate Lamarck's first law:

. . . the rudimentary animal digests food (as in the case of the amoeba) before it acquires a stomach or organ of digestion; it sees or is sensitive to light before it grows an eye; in society letters are carried by private hands before an organised postal system is created.⁴

Much like Whitman, Carpenter used the term "desire" for the Lamarckian expression, "avoir besoin de." (Lamarck, a biological materialist, would have been more comfortable with a literal translation: "have need of.")

Carpenter elucidated his belief in Lamarck's second law with the following premise:

If a farmer's son is occasionally born who hates farming and loves music, and who ultimately through the force of his desire (driving him into oppositions and difficulties and penurious struggles) transforms himself into a musician, is it not also likely that occasionally an animal is born who hates the customs of his tribe, and at last (also through struggles) transforms himself into something else? Even if he does not succeed (the animal) in entirely transforming himself, he likely transmits the desire in some degree to his descendants, and the transformation is thus carried on and completed later.⁵

To quote Carpenter once more: "Lamarck gives the instance—among others—of a gasteropod; how the need or desire of touching bodies in front of it as it crawled along would result in the formation of tentacles."⁶ Carpenter insisted that fortuitousness, proposed by the Darwinists as the cause of change, could not account for "a true unfolding of a higher form latent within. . . ."⁷ He added that, "On the theory of Exfoliation, which was practically Lamarck's theory, there is a force at work throughout creation, ever urging each type onward into new and newer forms."⁸

Whitman's early championing of biological and social Lamarckism over all forms of Darwinism made an indelible impression upon the younger Carpenter, and five years after his second visit to Whitman he wrote his magnum opus. Both believed that exfoliation, rather than accretion, was the causative factor in change.

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NOTES

1 James T. F. Tanner, "Walt Whitman: Poet of Lamarckian Evolution," Ph.D. dissertation,

Texas Technological College, Lubbock, 1965; See *Dissertation Abstracts*, 26 (1966), 5446; and his "The Lamarckian Theory of Progress in *Leaves of Grass*," *Walt Whitman Review*, 9 (March 1963), 3-11. Also see Harry Gershenowitz, "Whitman and Lamarck Revisited," *Walt Whitman Review*, 25 (September 1979), 121-123.

2 *Leaves of Grass*, Comprehensive Reader's Edition, ed. Sculley Bradley and Harold W. Blodgett (New York: New York University Press, 1965), p. 81.

3 Edward Carpenter, *Days with Walt Whitman* (London: George Allen, Ruskin House, 1906), p. 6.

4 Edward Carpenter, *Civilisation: Its Cause and Cure* (London: George Allen and Unwin Ltd., 1889), p. 186.

5 *Civilisation*, pp. 188-189.

6 *Civilisation*, p. 189.

7 *Civilisation*, p. 190.

8 *Civilisation*, p. 195.