By WILLIAM GRIMES

Philip D. Curtin, a wide-ranging and influential historian whose pioneering use of modern statistical methods to determine the extent of the Atlantic slave trade suggested that far fewer slaves were transported from Africa than had previously been thought, died June 4 in West Chester, Pa. He was 87 and lived in Kennett Square, Pa.

The cause was pneumonia, said his wife, Anne.

In "The Atlantic Slave Trade: A Census" (1969), Mr. Curtin followed two widely used estimates of the number of slaves transported from Africa back to their origins, and then applied quantitative methods to come up with his own figure: 8 million to 10 million, with a 20 percent margin of error.

The earlier estimates had been based on supposition, as it turned out. Mr. Curtin's figure, based on scrutiny of shipping contracts and port data, was substantially less than the widely repeated figure of 20 million, which, he showed, was an extrapolation from now-lost records pertaining to Jamaica, and the figure of 15 million used by W. E. B. Du Bois, who repeated a figure arrived at by Edward Dunbar, a 19th-century abolitionist.

Before Mr. Curtin published his book, estimates varied wildly, from as few as 3.5 million to as many as 100 million. All these numbers, Mr. Curtin, owed their longevity to "a vast inertia, as historians have copied over and over again the flimsy results of insubstantial guesswork."

The debate continues, but the range has narrowed.

Although he was known principally for his studies of the slave trade and the economic history of Africa, Mr. Curtin later took even larger questions of human interaction across large geographic areas and periods of time.

"Once he had established himself as the foremost African historian in the United States, he extended his range to world history," said William T. Rowe, chairman of the history department at Johns Hopkins University. "He was a proselytizer for a kind of world history that treated every human society with equal dignity and equal weight, interacting with each other and having indigenous processes of change, not simply waiting for the Europeans or the Arabs to arrive."

Philip DeArmond Curtin was born in Philadelphia and grew up in Webster Springs, W. Va., where his family owned a coal and timber business. After a three-year interruption for service in the Merchant Marine, he graduated from Swarthmore College in 1948. In 1953, he received a doctorate in history from Harvard, writing his dissertation on the history and economy of Jamaica in the mid-19th century.

At the University of Wisconsin, where he began teaching in 1950, he and a colleague, Jan Vansina, started a department of African languages and literature, helping to establish African studies as an academic discipline in the United States. From 1975 until his retirement in 1998, he taught at Johns Hopkins.

In addition to his work on African societies, notably "Precolonial African History" (1974) and "Economic Change in Precolonial Africa" (1974), Mr. Curtin commanded an academic readership outside his field for books like "Cross-Cultural Trade in World History" (1984), "Death by Migration: Europe's Encounter with the Tropical World in the 19th Century" (1989) and "The Rise and Fall of the Plantation Complex" (1990).

In addition to his wife, the former Anne Gilbert, he is survived by their three sons, Steven, of Northville, Mich.; Charles, of North Haven, Me.; and Christopher, of West Chester; two brothers, David and Richard, both of Fort Myers, Fla.; and three grandchildren.

In 1983, Mr. Curtin was awarded a MacArthur Foundation "genius" grant. In 2005, he published a memoir, "On the Fringes of History."