The general Gilbreath Principle was published in 1966, eight years after a special case of it first delighted the magic world. Shuffling a deck is often assumed to randomize the cards, but Norman Gilbreath had a new perspective on the fact that a single riffle shuffle of a prearranged deck can lead to some quite predictable results. We review this principle and present some fun applications. (Received September 25, 2006)