

“**F**or a brief 18-month period between April 1860 and October 1861, an undying blend of courage and endurance was created by the Pony Express riders. Racing through Nebraska, Wyoming, Utah, and Nevada, these horsemen carried letters written on lightweight paper (postage ranged from \$2 to \$10 an ounce) from one relay station to another. They covered the 1,966 miles from St. Joseph, Missouri, to Sacramento, California, in 11 days. The nature of the work is implied in the newspaper advertisements seeking riders who weighed less than 135 pounds, did not drink or carouse, and were ‘daring young men—preferably orphans.’”¹ (See Figure 8.1) The twice-weekly trip took longer if riders had to avoid Indians or a herd of a million buffalo.


The \$10 charge for an ounce of mail in 1860 is equivalent to \$220 in today’s money. Only such things as diamonds are as expensive to ship today. It is interesting to note that there are six nonstop flights leaving St. Louis every day for San Francisco (cities near St. Joseph and Sacramento, respectively), and an average one way fare is about \$200 per person (average weight of a person with baggage is about 180 pounds). It takes approximately 4 hours for a plane to make the trip. The time differential averages out to one flight every 6 hours versus one pony express ride every 84 hours, and the cost for an ounce is 7 cents by plane versus 22,000 cents by pony express.

This comparison shows unmistakably that the interaction between the Midwest part of the United States and the West has grown enormously over the past 142 years. The level of interaction is a function of the demand for travel, its speed, and its cost. All of these factors are conditioned by technology. In this case, the technology changed from fresh horses spaced at 16 to 24-kilometer (10 to 15 mi) intervals in the Pony Express days to jet planes. Today, with populations in each area in the millions and the cost of travel low, it is no wonder that six planes leave daily from each city for the other.



¹*The Story of America*, The Reader’s Digest Association, Pleasantville, New York, 1975, p. 199.

PONY EXPRESS!

CHANGE OF
TIME!

REDUCED
RATES!

10 Days to San Francisco!

LETTERS

WILL BE RECEIVED AT THE

OFFICE, 84 BROADWAY, NEW YORK,

Up to **4 P. M.** every **TUESDAY**,

AND

Up to **2½ P. M.** every **SATURDAY**,

Which will be forwarded to connect with the PONY EXPRESS leaving
ST. JOSEPH, Missouri,

Every WEDNESDAY and SATURDAY at 11 P. M.

TELEGRAMS

Sent to Fort Kearney on the mornings of **MONDAY** and **FRIDAY**, will connect with **PONY** leaving St. Joseph, **WEDNESDAYS** and **SATURDAYS**.

EXPRESS CHARGES.

LETTERS weighing half ounce or under \$1 00
For every additional half ounce or fraction of an ounce 1 00
In all cases to be enclosed in 10 cent Government Stamped Envelopes,
And all Express CHARGES Pre-paid.

☛ **PONY EXPRESS ENVELOPES** For Sale at our Office.

WELLS, FARGO & CO., Ag'ts.

New York, July 1, 1861.

SLOTE & JAMES, STATIONERS AND PRINTERS, 96 FULTON STREET, NEW YORK

Figure 8.1 A poster advertising the services of the Pony Express, whose riders sped across the West on horses bred to run fast. In operation only from 1860 to 1861, the Pony Express was rendered obsolete by railroads and the telegraph. In 1861, a telegraph wire strung from New York City to San Francisco reduced the time for communication between the coasts from days to seconds.

Source: Courtesy of Pony Express Museum, St. Joseph, MO.
© Bettmann/Corbis Images.

THE DEFINITION OF SPATIAL INTERACTION

Spatial interaction is the term geographers use to represent the interdependence between geographic areas. Spatial interaction can be the movement of people between places, the flow of goods from one region to another, the diffusion of ideas from a center of knowledge to other areas, or the spread of a communicable disease from a group of people living in one area to those living in another area. What all of these examples have in common is that there is some sort of a flow over a distance separating people. Spatial interaction is the geographic counterpart to human interaction. The difference is that the location of those involved in the interaction can be clearly represented on maps.

If there is no one at a site (for example, on an iceberg), there can be no spatial interaction between the site and any other site. On the other hand, if there are a great number of people at one site—for example, Chicago—and a great number of people at another site—say, New York—there will be a great deal of spatial interaction between them. But if the second site is a city as far away as Tokyo is from Chicago, there will be fewer interactions between Chicago and Tokyo than between Chicago and New York. Thus, the amount of spatial interaction is a function of the size of the interdependent populations and the distance between them.

DISTANCE AND SPATIAL INTERACTION

Because people make many more short-distance trips than long ones, there is greater human interaction over short distances than long distances. This is the principle of **distance decay** (introduced briefly in Chapter 1), the decline of an activity, a function, or an amount of interaction with increasing distance from the point of origin. The tendency is for the frequency of trips to decrease very rapidly beyond an individual's **critical distance**, the distance beyond which cost, effort, and perception play an overriding role in our willingness to travel. Figure 8.2 illustrates this principle with regard to journeys from the home site. The critical distance is different for each person. The variables of a person's age, mobility, and opportunity, together with an individual's interests and demands, help to define how much and how far a person will travel.

A small child, for example, will make many trips up and down the block, but he or she will be inhibited by parental admonitions from crossing the street. Different but equally effective constraints control adult behavior. Daily or weekly shopping may be within the critical distance of an individual, and little thought may be given to the cost or effort involved. Shopping for special goods, however, is relegated to infrequent trips, and cost and effort are considered.

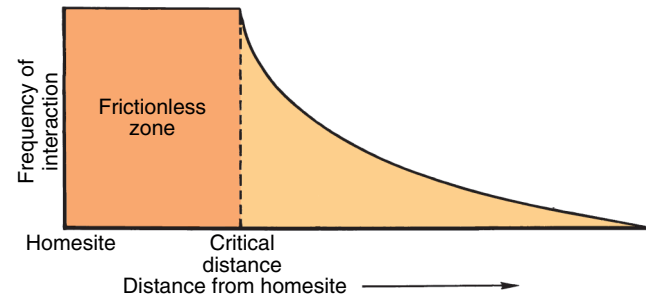


Figure 8.2 This general diagram indicates how most people observe distance. For each activity, there is a distance beyond which the intensity of contact declines. This is called the *critical distance*, if distance alone is being considered, or the *critical isochrone*, if time is the measuring rod. For the distance up to the critical distance, a frictionless zone is identified in which time or distance considerations do not effectively figure into the trip decision.

Effort may be measured in terms of *time-distance*, that is, the time required to complete the trip. For the journey to work, time rather than cost often plays the major role in determining the critical distance. When significant differences between our cognition of distance and real distance are evident, we use the term *psychological distance* to describe our perception of distance. A number of studies show that people tend to psychologically consider known places as nearer than they really are, and little-known places as farther than true distance. A humorous example of this is seen in Figure 8.3, a more serious one in Figure 8.4. Also, see “Mental Maps.”

We gain information about the world from many sources. Although information obtained from radio, television, the Internet, and newspapers is important to us, face-to-face contact is assumed to be the most effective means of communication. The distance decay principle implies that as the distance away from the home or workplace increases, the number of possible face-to-face contacts usually decreases. We expect more spatial interaction at short distances than at long distances. Where population densities are high, such as in cities (particularly central business districts during business hours), the spatial interaction between individuals can be at a very high level, which is one reason these centers of commerce are often also centers for the development of new ideas.

BARRIERS TO INTERACTION

Recent changes in technology permit us to travel farther than ever before, with greater safety and speed, and to communicate without physical contact more easily and completely than previously possible. This intensification of contact has resulted in an acceleration of innovation and in the rapid spread of goods and ideas. Several millennia ago, innovations such as the smelting of metals