

Ernest George Ravenstein: The Laws of Migration, 1885.

By John Corbett

Background The rise of the industrial age during the second half of the nineteenth century revolutionized life and working patterns for millions of people across Europe and North America. The disruptive influence of factories, railroads and economies of scale changed both the nature of opportunity and where it could be found. Millions of people were uprooted from their traditional homes and livelihoods and hit the road in search of a better life or to escape one that had become intolerable.

In a paper delivered to the *Journal of the Statistical Society* in England in 1885, E. G. Ravenstein, a Fellow of the Royal Geographic Society, outlined a series of "laws of migration" that attempted to explain and predict migration patterns both within and between nations. Ravenstein's basic laws, and additional laws subsequently derived from his work, continue to serve as the starting point for virtually all serious models of migration patterns over a century later.

In his paper, Ravenstein said that his original inspiration came from Dr. William Farr, who had once observed, in Ravenstein's words, "that migration appeared to go on without any definite law." In order to prove that specific processes were indeed at work, Ravenstein turned to census data, which had employed increasingly reliable methods to take snapshots of the populations of the Kingdoms of England and Wales, Scotland and Ireland since the 1840s.



Innovation For his migration study, Ravenstein compared census data gathered in 1871 and 1881, the most recent tabulations available at the time. In order to determine patterns of movement, comparison of simple population totals would be insufficient. "[T]he rate at which the population of each kingdom increases does not correspond with the rate of increase among the natives of each," Ravenstein observed. "It need hardly be pointed out that this difference is due primarily to emigration from foreign parts, and in a less degree to migration from one kingdom into the other."

Toward this end, Ravenstein used additional survey information detailing the birthplaces of those tallied. He would compare the aggregate birthplace data with the current population information of each county to get a general picture of where people had ended up in relation to their places of birth. The populations of all counties would be categorized according to whether individuals were "natives" of the county they were enumerated in at the time of the survey ("native county element"), of an adjoining county ("border element"), from within the same kingdom, from a separate kingdom, or from outside the United Kingdom altogether ("foreign element").

At the heart of Ravenstein's emerging migration model were the concepts of *absorption* and *dispersion*. He defined a county of absorption as having "a population more or less in excess of the number of its natives enumerated throughout the kingdom." In other words, it was a country that on the whole took in more people than it gave up. A county of dispersion, then, would be one of the counties that on the whole gave up population over time, or in Ravenstein's words, "the population [of the county] falls short of the number of [its] natives enumerated throughout the kingdom."

Since each census gathered specific data on the birth counties of each individual, Ravenstein was able to generate basic population flows between dispersion and absorption centers, leading to the revealing map illustrated on this page. Through a careful reading of the numbers, he was able to sketch a rough picture of migration trends within the United Kingdom. The counties of absorption "are the chief seats of commerce and industry," Ravenstein concluded, whereas counties of dispersion were "nearly all . . . agricultural."

In addition to the basic trends, Ravenstein was also able to use the birthplace information to determine that significant "counter-currents" of migration existed. Significantly, he concluded that many of those moving away from some of the absorption areas "have merely removed to what are actually suburbs, and can hardly be said to have left the metropolis." He also discovered that most people who were natives of other counties had generally come from bordering counties, leading to the idea that migrants generally make shorter, rather than longer, moves.

Perhaps the most surprising result of Ravenstein's research was the conclusion that the "woman is a greater migrant than man." While "males more frequently venture beyond [the kingdom of their birth]," women "are more migratory than males within [it]." This he attributed to women seeking work outside of their homes for domestic service as well as jobs in the shops and factories of industrial centers.

Although Ravenstein's paper only focused on information gleaned from surveys within the United Kingdom, he made the bold jump of formulating from his observations a series of seven "laws of migration", although some of his laws encompassed several assertions that were later divided into additional laws. The original seven as Ravenstein originally set forth are as follows:

- 1) Most migrants only proceed a short distance, and toward centers of absorption.**
- 2) As migrants move toward absorption centers, they leave "gaps" that are filled up by migrants from more remote districts, creating migration flows that reach to "the most remote corner of the kingdom."**
- 3) The process of dispersion is inverse to that of absorption.**
- 4) Each main current of migration produces a compensating counter-current.**
- 5) Migrants proceeding long distances generally go by preference to one of the great centers of commerce or industry.**
- 6) The natives of towns are less migratory than those of the rural parts of the country.**
- 7) Females are more migratory than males.**

Ravenstein's laws immediately created a stir, with some complaining that he had identified patterns of migration, but that this was not the same as discovering "natural laws." Four years later, he presented another paper that looked at migration patterns elsewhere in Europe and North America, in which he highlighted an exception to migration patterns based upon the American frontier experience. He noted that people are more willing to travel long distances to occupy unsettled land than they would in a country more fully settled, as was the case in the United Kingdom.

Later social scientists would be more kind to Ravenstein's legacy. Some recent reviews of his work credit him with as many as eleven original migration laws. He is generally credited with the origination of distance decay theories of migration and spatial interaction, and later theories expanded on "push" and "pull" factors of migration. Later studies by R. Lawton in the 1950s and 1960s reused Ravenstein's methods but added additional demographic indicators to arrive at refined migration models.

Publications "The Laws of Migration." *Journal of the Statistical Society of London*, Vol. 48, No. 2. (June, 1885), pp. 167–235.

"The Laws of Migration." *Journal of the Royal Statistical Society*, Vol. 52, No. 2. (June, 1889), pp. 241–305.

"The Birthplace of the People and the Laws of Migration." *The Geographical Magazine*, Vol. 3 (1876), pp. 173–177, 201–206, 229–233.

Related Works Tobler, W. "Migration: Ravenstein, Thorntwaite, and Beyond." *Urban Geography*, Vol. 16, No. 4 (1995), pp. 327–343.

Lawton, R. "Population changes in England and Wales in the later nineteenth century: An analysis of trends by registration district." *Transactions of the Institute of British Geographers*, Vol. 44 (1968), pp. 55–74.

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