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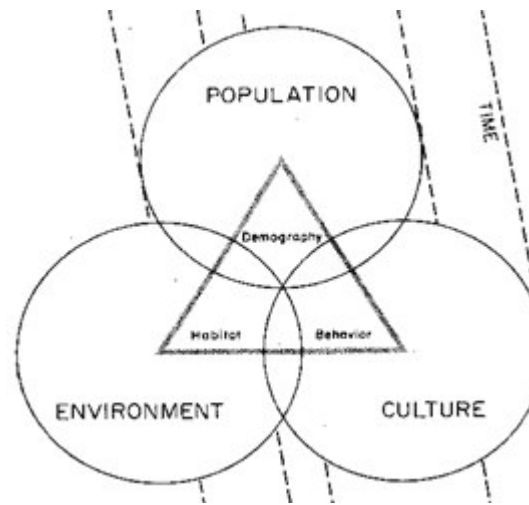


Melinda S. Meade: Medical Geography and Human Ecology, 1977

By Nina Brown

Background

Melinda S. Meade is a professor of geography at the University of North Carolina, Chapel Hill. She received a B.A. in history from Hofstra College and served as a Peace Corps volunteer in Thailand from 1966–1968. During her time in Thailand, Meade observed firsthand the suffering caused by chronic illness, and by social and environmental upheaval. After returning from Thailand, Meade earned an M.A. in medical geography from Michigan State University and later completed a Ph.D. at the University of Hawaii. She was the first American geographer to have both a master's degree and a doctorate in medical geography. Much of Meade's research has been interdisciplinary; her research interest in cultural ecology spans the fields of geography, medicine, demography and anthropology. The regional focus of her work is Asia and she has dedicated much of her career to understanding the causes of health problems like the ones she first observed in Thailand.



Innovation

Although interest in the spatial distribution of disease can be traced to the ancient world, the subfield of medical geography is a relatively young one. Jacques May (1896–1976), a French surgeon who worked in Thailand, is generally credited with establishing the field with numerous publications on the link between ecology and tropical disease, including his classic work *The Ecology of Human Disease* (1958). Formal graduate programs in medical

geography were first established in a handful of American universities in the 1970s.

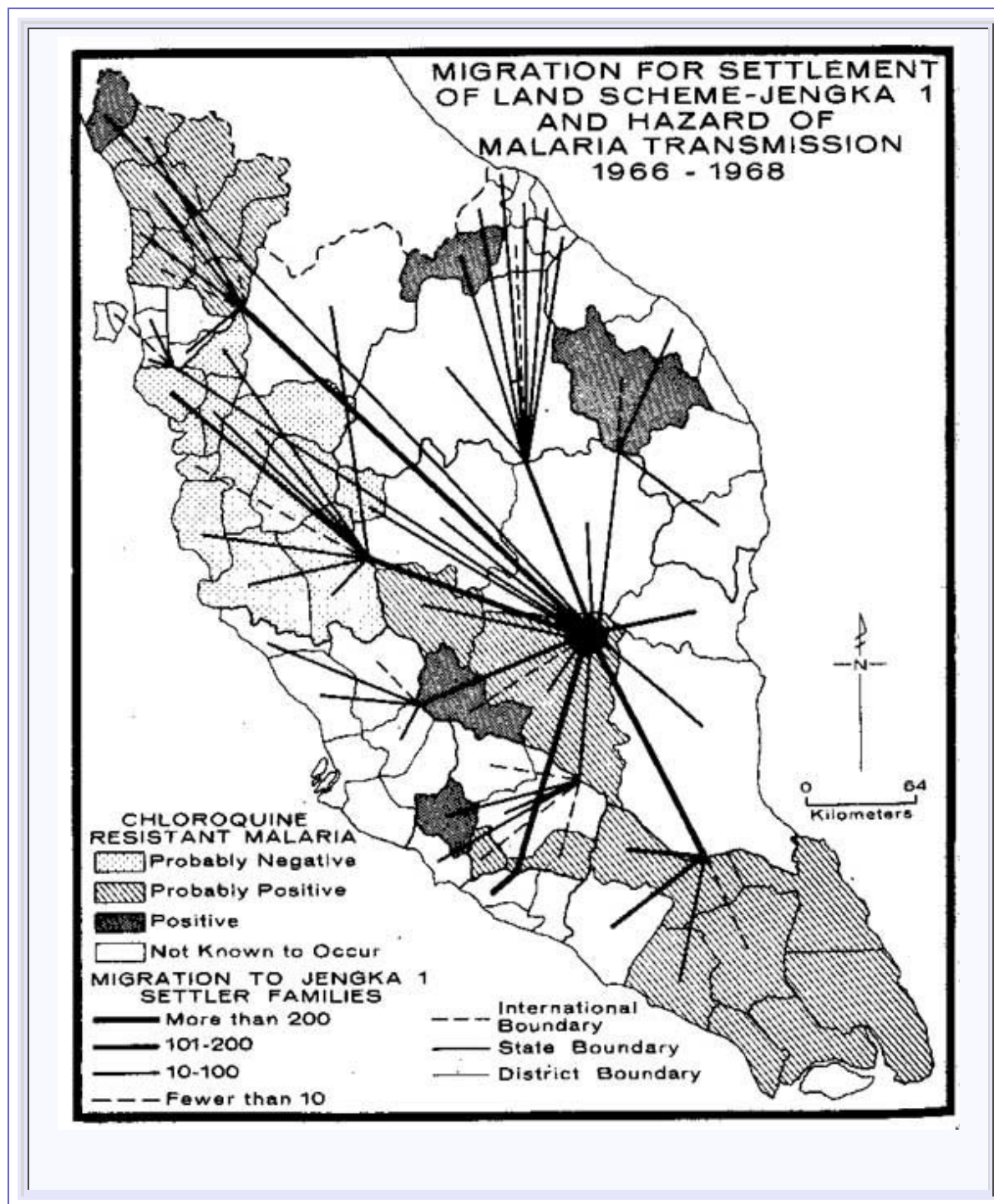
Meade's 1977 article, "Medical Geography as Human Ecology: The Dimension of Population Movement," published in *The Geographical Review*, outlined an approach to medical geography that had a significant impact on the development of the field. In this article, Meade synthesized ideas from anthropology, ecology, medicine and demography to construct an integrated model of the core dimensions of medical geography. This model, shown on the left, suggested that health was the result of interactions between the three dimensions of population, environment, and culture. The population dimension includes such factors as genetics and nutritional status, concerns that were traditionally the domain of demographers. The environmental dimension includes physical, chemical, and psychological threats to health, factors usually measured by physicians, earth scientists, and ecologists. The cultural dimension is made up of the range of behaviors humans use to interact with the environment and each other. Traditionally the domain of anthropologists, these behaviors include dietary practice, types of housing, and the cultural frameworks through which health and illness are perceived. Most of these behaviors, Meade wrote, also have spatial expressions that are crucial to research efforts in medical geography.

Arguing that a robust approach to medical geography would unite the concerns of several disciplines, Meade further suggested that the study of population movements offered a means of bridging the three dimensions of population, environment, and culture, to permit a holistic analysis of the systems that result in human health or disease. Movement, whether the daily circulation of people between home and worksite or migration across countries and world regions, causes people to circulate between microenvironments and exposes them to new pathogens and health hazards. The analysis of population movements, both contemporary and historical, would add new insights to our understanding of the causes of illness and provide new tools to fight disease worldwide. As an example of the value of this approach, Meade described the results of her research in Malaysia, which demonstrated that the large-scale migration stimulated by the land settlement schemes of the Malaysian government was resulting in the spread of drug-resistant malaria into regions where it had not previously been found [see illustration].

Today, the kind of holistic and cross-disciplinary perspective Meade advocated in 1977 has been widely adopted by medical geographers and medical practitioners, who often work in partnership to understand the spatial processes that underlie patterns of health and disease. As the pace of population movements has quickened, migration has become an important area of investigation for researchers seeking to understand the spread or spatial

diffusion of specific illnesses, like HIV/AIDS (Gould 1993), as well as the relationship between health and migration more generally (Beenstock 1980).

Diagram from "Medical Geography as Human Ecology: The Dimension of Population Movement." *Geographical Review* 67(4): 383, October 1977.



Source: "Medical Geography as Human Ecology: The Dimensions of Population Movement." *Geographical Review* 67(4): 392

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