It is not the intention here to discuss existing humanities paradigms, but it is worth discussing in general terms what adding the use of GIS has to offer to them. Traditionally, it has been argued that there are three main advantages in using GIS in historical research: GIS structures the data to allow them to be discovered and explored in ways that are explicitly spatial; it allows the data to be visualized using mapping and other approaches; and it allows the data to be analyzed in ways that are explicitly spatial. A fourth advantage, and one whose importance is frequently underestimated, is the ability of GIS to integrate data from a wide range of apparently incompatible sources. As all of the data are georeferenced to specific coordinate-based locations on the Earth’s surface, at a technical level at least, any dataset can be integrated with any other dataset to see how the locations within one dataset compare with the locations in another. This integration has potentially major benefits, as, for example, previously disparate and apparently incompatible sources can be brought together.

Thus GIS can be thought of as a tool that enables researchers to explicitly handle space and location. It is far from a perfect tool, as its data models are crude. It is, however, a highly effective tool with much to offer many subjects across the humanities as long as its limitations are understood and the patterns that it reveals are evaluated critically.

TRENDS IN HGIS

As mentioned above, the 2008 conference illustrated that HGIS was being taken in two directions. On the one hand, the more traditional side of the field—the quantitative, social science-based side—was moving away from its original technical emphasis to focus increasingly on answering research questions and developing new narratives. In this respect the field was deepening as it moved from the technical to the applied. This change is reflected in the fact that the term “historical GIS”—with its clear emphasis on technology—is increasingly being replaced with the term “spatial history,” an expression that stresses doing a form of history that emphasizes geography. A key point about this is that as research within the field has developed, it has become increasingly topic based rather than technology or data based. This deepening
of the field also represents a widening and a move toward maturity, because the new results lead to it being of interest to a broad audience of historians.

At the same time as this deepening, the field is also broadening at a technical level to allow it to address a greater range of sources; to explore, analyze, and disseminate them in new ways; to develop new questions that could not previously be asked; and to move into new subject areas. This broadening is happening on the quantitative side; it also, to an increasing extent, has developed the use of GIS into qualitative sources. This exciting development means that, rather than concentrating on social science history, the field is broadening into history more generally and also into other humanities disciplines. At present the emphasis is still on technology, data infrastructure, and potential. This is understandable and does not represent a major criticism. All GIS projects experience long lead times as databases are built. Investigations into what the data and technology are capable of offering then have to be made before applied research can take place. The social science end of GIS went through this process for a number of years before it began to turn into the more applied field of spatial history. The broadening of GIS to include qualitative sources is leading to the development of "humanities GIS," a field whose techniques and approaches have the potential to be applied across the humanities. This in turn provides a foundation for "spatial humanities," a field using geographical technologies to develop new knowledge about the geographies of human cultures past and present."

**THE ESSAYS IN THIS VOLUME**

In this volume we provide six essays that showcase the deepening and broadening trends discussed above. The volume is divided into two parts of three essays each. The first part focuses on the deepening of the field into the applied scholarship that develops historiography—the move from HGIS to spatial history. It includes three essays that are based on large quantitative HGIS databases but that conduct applied research on a variety of very different topics. Robert Schwartz and Thomas Thevenin explore how agricultural change in England and Wales and in France
was affected by the development of the rail network. Andrew Beveridge explores the changing patterns of segregation in U.S. cities over the long term, and Niall Cunningham explores a variety of questions associated with long-term religious change in Ireland and the violence that has sometimes accompanied it.

The second set of three essays explores broadening the technology into new areas. Humphrey Southall explores a variety of ways in which the Great Britain Historical GIS can be applied beyond the traditional boundaries of history. There are similarities between his essay and the one by Cunningham that precedes it in that both explore the potential of large GIS databases for Ireland and Britain, respectively. The major contrast is that while Cunningham’s essay concentrates very much on social science history approaches, Southall approaches the topic far more broadly and explores themes as diverse as modern medical demography, environmental change, and commercial applications. The other two essays in this part are more firmly based on qualitative sources and the shift from traditional historical GIS toward humanities GIS. Elijah Meeks and Ruth Mostern look at a range of potential uses for a major gazetteer of places in Song dynasty China. Julia Hallam and Les Roberts present a much more focused essay that explores the potential for the use of an archive of amateur films to help historians understand the city of Liverpool in the 1950s. Each essay is described in more detail at the start of each part.

Together, the six essays cover a broad range of subjects and scales—ancient and modern, national and local, rural and urban—and cover the spectrum from topic-based work that answers specific research questions to source-led or data-led work that is concerned with the development of new approaches and their potential applications. There are, however, some key themes that run through them all. These are particularly associated with the fact that GIS allows historians to make extensive use of the geographical nature of their sources. This goes well beyond simple mapping. As stated above, one of the key advantages of GIS is that it allows data from disparate sources to be integrated. Schwartz and Thevenin integrate agricultural statistics with data on the transport network. Southall integrates census data and a wide range of other sources. Cunningham integrates multiple censuses for Ireland to explore change
over time and also integrates this polygon-based census information with a major database of killings during Northern Ireland's Troubles to allow violent deaths to be compared with background social and economic variables. All of the authors show the importance of applying geography and location to their research topics, but all of the essays are based on a wide range of different approaches to history. These stretch from Beveridge’s highly quantitative approach to the study of segregation in U.S. cities based on census data to Hallam and Roberts’s study of films of Liverpool. Finally, as discussed above, all of the essays are based on adding GIS approaches to existing paradigms in topics as diverse as Schwartz and Thevenin’s study of Victorian Europe and Meeks and Mostern’s study of Song dynasty China.

GIS is therefore a technology that provides scholars with a tool to assist them with their research. It is not a tool that forces any particular academic paradigm onto researchers; indeed, as the essays in this book show, GIS can be used with a wide variety of different approaches to different topics. It is a tool that relies on researchers being able to represent their data in a particular way based around linking attribute information about locations to precisely represented spatial data, particularly points, lines, and polygons. Not all data can be represented in this way; therefore, not all data can be explicitly incorporated into a GIS-based analysis. A study that has GIS at its core, however, does not need to exclude other types of evidence. As a tool, GIS clearly encourages researchers to think about location and geography. As soon as researchers create their database, they will map it, and much of the subsequent research will involve manipulating, refining, enhancing, and interpreting the maps that the database produces.

However, maps rarely answer questions; far more commonly, they pose them.17 Why is the pattern as it is? Why are things different over here compared to over there? It is up to researchers to answer these questions in a way that they choose—GIS does not force a paradigm onto them. This presents a challenge. The technology was developed for reasons that have little to do with the needs of academic researchers, particularly those in the humanities. The challenge for humanities researchers is to take these tools and modify, develop, and apply them in ways that are appropriate to the paradigm that they want to pursue. As
the subsequent essays show, this process is not always easy, but it does provide new and exciting opportunities to develop new knowledge in a wide range of disciplines and topics that focus on the study of geographies of the past.

NOTES


13. The quote is from Taylor, "Editorial Comment," 211.


