I feel especially honored to have been invited to present a paper at a research conference in honor of David Ringrose. It seems to me that I have literally followed him throughout my scholarly career. When I showed up at the University of Wisconsin in 1966 to do graduate work in history, David was already in Spain, but I heard a good bit about him. Of course, by that time, we had the same graduate adviser, Domencio Sella. Unless his wife did so, I may be the only person outside of his Master's committee who has read his M.A. thesis. It was at a meeting David hosted while at Rutgers that I was introduced into the Society for Spanish and Portuguese Historical Studies, an organization which has been a fundamental support for much of my professional life. More importantly, I have learned so much from David's work on Spanish history, especially over the past twenty years or so. A few years ago, when he saw a recommendation I had written for him, he told me that I made it sound as though he walked on water. I didn't think the letter was that good, and I have on occasion pointed out problems in what he has published. However, he has consistently reminded me of important concepts, which continue to inform my own work. For example, the project I describe in this paper makes use to some extent of central place theory, about which I learned while doing my Ph.D. minor in East Asian history but which I had not employed in my own work.¹ For the annual meeting of the American Historical Association in 1999, I organized a session to examine critically Andre Gunder Frank's recent book ReORIENT, and David presented a brilliant paper on networks, which anticipated some of the exciting research now being done in several social sciences and which is the foundation of my current work.²

In this paper, I want to talk about an aspect of my work that appears to relate closely both to what I have learned from David over the years and to the theme of this research conference. The project I will discuss has grown out of my research on smuggling, for which I received consecutive fellowships from the National Endowment for the Humanities and the John Simon Guggenheim Memorial Foundation. Thanks to this support, I am completing a book, now tentatively entitled The World of the Merchant-Smuggler in the First Global Age. It focuses on the Castilian activities of a geographically-extensive, sixteenth-century smuggling organization, which moved contraband over a variety of routes along the rugged border between Castile and Valencia, under the direction of Iberian and Italian merchants based in Cuenca, Genoa, Milan, Seville, Toledo, and Valencia. In this work, I expose this “shadow empire” (to use George Winius's phrase³) on the basis of a special investigator's reports from 1565, surviving trial records, and related documents from Spanish national, provincial, and municipal archives.

Throughout my research for this project, I have been struck by how different the Castilian entrepreneurs were from the stereotypic view of them one often finds in general works about the economic history of the first global age, from the fifteenth to the early nineteenth century. I suppose that these views ultimately owe something to the so-called "Black Legend" about "Spain", which is really about the Crown of Castile, and to the use of elements of this Protestant propaganda by Spanish reformers in the late eighteenth century and during the Liberal constitutionalist era of the nineteenth. According to this group of perspectives, Castile's "culture" shaped the outlook of
investors in ways that left them unable, even unwilling, to compete within a globalizing economy and caused Spain's backwardness right into the late twentieth century. With attention to different supposed cultural and institutional aspects, prominent scholars such as Peter Burke, David Landes, Douglas North, and Immanuel Wallerstein perpetuated this negative stereotype in influential works, which have had an impact on writers of textbooks in the historical social sciences. As David Ringrose pointed out in his book on Spanish economic history, *Spain, Europe, and the "Spanish Miracle," 1700-1900*, those of us who went to Spain in the 1960s were intrigued, perhaps even shocked to discover a vibrant entrepreneurial environment. Between 1965 and 1969, Spain had the second fastest growing economy in the world, after Japan, and those in the Castilian heartland who possessed investment capital participated skillfully and enthusiastically.

I could use anecdotes from my research to undermine further the stereotypic view of the Castilian businessman so warped by the deficiencies of his "culture" that he could not take adequate advantage of the opportunities offered him in the global economy by the extension of Castile's overseas domains. Although Portugal hardly figures in the imagination of most historians of the first global age, after an initial flurry of attention to fifteenth-century voyages, I could add a bit about the Portuguese case, both because I think that the neglect of Portuguese history is due in part to an extension of the "stain" of the negative view of Castile and because in 1580, Castile's ruler Philip II also became king of Portugal, as Philip I, which united the global domains of these two Crowns into a world-encompassing network of great, but neglected world historical significance. However, in late April, I was notified about an opportunity to amplify greatly research on the real contribution of Iberian merchants in establishing the first global economy, and the resulting project I formulated has so consumed my life since then that I want to report on that work.

As part of its ongoing effort to establish more effective ties among its member nations, the European Union maintains a European Science Foundation (ESF), and this entity has established the European Collaborative Research Scheme, known as EUROCORES, with its offices in Strasbourg. I do not pretend to have mastered any aspect of the EU's bureaucracy, but one way that EUROCORES functions is to establish broad program definitions, within which multi-disciplinary groups of scientists can propose for funding some large-scale program. In 2005, one such group, dominated by biologists and evolutionary anthropologists, successfully proposed a project entitled "The Evolution of Cooperation and Trading" or TECT. Although there was no historian who signed the TECT document, the resulting EUROCORES call for proposals specifically mentioned the possibility of historical studies of cooperation and trading. Despite the skepticism of some historians I consulted, who felt that any proposed Collaborative Research Project (CRP; an EU term) involving real historians, as opposed to evolutionary anthropologists claiming to write history, would stand no chance of getting funded through such a program, I decided to act. In response to the TECT call, I drafted a funding proposal entitled "Dynamic Complexity of Cooperation-Based Self-Organizing Commercial Networks in the First Global Age", the official acronym for which is DynCoopNet, and recruited the members of a DynCoopNet collaborative research community, which now numbers over 40 researchers in twelve countries on five continents.

How can one possibly study the activities of a huge number of individuals within a global space who were engaged in creating, maintaining, and altering the complex patterns of network-like interactions? Given their importance in creating and sustaining the interactive connections of the period, the activities of merchants and those who were associated with their activities constitute a group that requires much more attention than it has received within the historical social sciences. Because the required techniques and domain knowledge are beyond the capacity for mastery of any individual researcher, existing research on such trading activity has been too limited and fragmentary to grasp how such networks of cooperating partners emerged and how they were sustained for hundreds of years. An adequate research project required a multi-disciplinary approach integrating
the work of anthropologists, geographers, economists, historians, and mathematicians, and it required multi-national collaboration at a scale never before seen in a research project in the discipline of history. Further, the project demanded much greater use of contemporary information management and communications technologies, particularly those associated with Geographic Information Science (GIScience). Through an integrated series of individual research efforts, DynCoopNet addresses the TECT program through an examination of the evolution of cooperation tying together the self-organizing commercial networks of the first global age (1400-1800), despite ample opportunities for individual profit against the collective interest. Through a convergence of methods unusual in my discipline, the CRP will reveal the mechanisms of cooperation that permitted merchants and others to establish and sustain these often long-distance trading networks.

In the social science literature, it is often asserted that greater human cooperation in trading became possible with the increasing effectiveness of the State, which was accompanied by the rise, primarily in Europe after 1500, of Capitalism and individualism characteristic of modernity. However, these networks of the first global age were characterized by a diffusion of authority and frequently by-passed the segmented political hierarchies characteristic of the period's governments. A segmented political hierarchy is one in which participants in various institutions engage in a great deal of "horizontal" interaction, while these institutions are loosely connected "vertically" to other institutions with similar intense, "horizontal" interactions within them. This model describes well the global Hispanic Monarchy, which was rooted in the institutions of municipalities, especially in municipal councils, loosely connected to Crown institutions, such as judicial tribunals, administrative councils, the courts of viceroyes and governors, etc. Because Castilian and Portuguese monarchs had patronage over episcopal appointments, named the members of the governing councils of the Inquisition, and interacted in various ways with the major religious orders, one must include Church institutions in this model. Political organization in non-Hispanic domains around the world frequently corresponded to this same segmented, hierarchical model.

DynCoopNet hypothesizes that many of the network connections, especially those crossing barriers of ethnicity, language, religion, and political affiliation, were the result of complex, flexible, self-organizing networks of individuals who connected with each other, often demonstrating high levels of collaboration and cooperation, as the only viable means to move goods and people within a highly open system over an expanding geographic space. Prior to the relatively recent rise of well-funded corporate economic and political entities, these networks likely provided the only continuous links between most of the connected places within spatially large geographic entities. Those involved in such networks repeatedly showed the capacity to adjust to the endemic disruptions to transportation and capital flows occasioned by wars, disease epidemics, arbitrary government action, or natural disasters, and the transportation problems associated with weather, distance, and the available technologies. Moreover, DynCoopNet hypothesizes that the interactions of individuals in these self-organizing networks and the strategies employed to achieve cooperation among a large number of widely-dispersed people, which made the networks possible, proved more often to be the sources of creativity and innovation in human communities than the commands of economic, military, political, and religious bureaucracies of the segmented hierarchies typical of the period. Without the diffusion of authority and widespread cooperation among merchants and others, often overcoming apparently serious cultural and political barriers, the emergence and spatial intensification of the first global economy would have been impossible, but existing research on such trading activity has been too limited and fragmentary to grasp how such networks of cooperating individuals emerged and how these networks were sustained and evolved for hundreds of years. Through the responses of these self-organizing networks to opportunities and problems, new forms emerged, both in terms of institutions and the characteristics of cooperation. In other words, there was a significant evolution of cooperation in trading activity over the course of this
DynCoopNet will explore if there existed between-group differences in cooperation, which perhaps gave some groups comparative advantages in relation to others, stimulating evolution.

Focused archival research and an extensive review of published information provided by historians will provide the basis for a shared, distributed database with a sufficient variety and quantity of data about the neglected topic of cooperation during the first era of globalization to increase confidence in the CRP's analyses. The CRP will employ Geographic Information Systems (GIS) as a data integration engine and visualization tool to bring together layers of information necessary to understand the high levels of cooperation. GIS treats each category of data as a discrete layer, and these layers can be aggregated or disaggregated in order to visualize, usually through some sort of dynamic cartographic representation, the interactions within geographic space of the various data layers. DynCoopNet assumes that no universal human nature exists. There were significant variations in cooperative behavior, and these were shaped by cultural information and institutions specific to place. This situation makes it vital to aggregate data by location, and in dealing with commercial networks, these loci must be connected over vast geographical spaces. GIS software also permits use of the mathematical techniques of spatial statistics and spatial analysis to discern and interpret patterns, relationships, and actions.

While strong on spatial analysis, traditional GIS software has been weak in its ability to facilitate dynamic temporal analysis, and the DynCoopNet Project will result in innovative solutions to this problem. In its research agenda, the University Consortium for Geographic Information Science (UCGIS) has identified four "emerging themes" of research, and two of these particularly interest the DynCoopNet CRP: they are (1) Geospatial Data Mining and Knowledge Discovery and (2) Geographic Visualization. While expanding the capabilities of these aspects of GIS, the CRP will use spatial statistics and mathematical modeling to compensate for incomplete data due to the fragmentary survival of sources and to discern the possible impact of layers of interaction of which there are few surviving traces. It will also utilize various types of mathematical modeling to explore the emergence of new forms and cause-and-effect relationships, to validate or corroborate hypotheses, and to identify unexpected tendencies or trends.

While expanding the capabilities of these aspects of GIS, the CRP will use spatial statistics and mathematical modeling to compensate for incomplete data due to the fragmentary survival of sources and to discern the possible impact of layers of interaction of which there are few surviving traces. It will also utilize various types of mathematical modeling to explore the emergence of new forms and cause-and-effect relationships, to validate or corroborate hypotheses, and to identify unexpected tendencies or trends.

While strong on spatial analysis, traditional GIS software has been weak in its ability to facilitate dynamic temporal analysis, and the DynCoopNet Project will result in innovative solutions to this problem. In its research agenda, the University Consortium for Geographic Information Science (UCGIS) has identified four "emerging themes" of research, and two of these particularly interest the DynCoopNet CRP: they are (1) Geospatial Data Mining and Knowledge Discovery and (2) Geographic Visualization. While expanding the capabilities of these aspects of GIS, the CRP will use spatial statistics and mathematical modeling to compensate for incomplete data due to the fragmentary survival of sources and to discern the possible impact of layers of interaction of which there are few surviving traces. It will also utilize various types of mathematical modeling to explore the emergence of new forms and cause-and-effect relationships, to validate or corroborate hypotheses, and to identify unexpected tendencies or trends.

6 Commerce in the first global age was characterized by high rates of smuggling. Unlike the situation now, violent criminal organizations selling protection --"mafias"-- did not emerge in this clandestine economic sphere. The absence in this "shadow empire" of any sort of policing underlines the cooperation among trading partners during these centuries. Even when formal commercial agreements could be ratified before a notary, these were frequently hard to enforce, and their validity depended heavily on the willingness of the parties to cooperate with each other. Therefore, the behavior of merchants, financiers, and others in the development of these commercial networks will provide evidence of cooperation in trading activity, which has not been considered in other studies. Besides identifying these networks and the people involved in them, we will find out how, within their social and cultural environments, individual merchants maintained the "creditworthiness" necessary for such a remarkable degree of cooperation over often great distances and with people they sometimes did not know, many of whom one would think would have been fierce rivals and competitors. The DynCoopNet CRP will focus on their cooperation at various scales: family, small firm, rural community, political and economic urban center, and geographically-extensive trade routes.

7 In our world filled with more violent conflict and "aggressive intolerance" than cooperation, the DynCoopNet project possesses great contemporary relevance. Although without reference to the speed and flexibility of communications and information management people in the 21st century have begun to enjoy, the DynCoopNet collaborative research community focuses on themes that are strikingly similar to ones receiving current attention, and its research results will, therefore, illuminate paths toward more efficient organization of joint endeavors and a reduction of
intolerance and social conflict. Somehow during the first global age, without being coerced to do so, merchants and others came together and cooperated to establish often spatially extensive networks through which they moved products over great distances. In this sense, these were self-organizing networks because they were formed and maintained by the interactions of the participants themselves, creating a global economic environment well beyond the capacity of any governmental or other hierarchy of that time to establish or control. This situation will not astonish researchers now. Currently, in terms of human migration, production, supply and finance, entities are rapidly connecting and collaborating with each other on a global scale. In doing so, hierarchical structures, whether of command and control or of a more segmented type (the latter characteristic of the first global age), are being pulled apart by more “horizontal” collaborative connections.

From the time I became aware of the TECT opportunity until the June 8th deadline to submit the so-called outline proposal, which was 35 pages long, I only had about five weeks, during which I was teaching two courses, which is not sufficient time to create anything so complicated. Somehow I got the job done, and DynCoopNet confounded the skeptics by surviving the first EUROCORES cut of 50% of the proposals in order to earn, just as the World Cup came to a close in early July, an invitation to submit a full proposal, which was due by September 26th. Despite the fact that the academic year for most of the participants would not begin until late September and most were on vacation or traveling for research and conferences during most of my preparation time until my semester began in mid August, I managed to turn in the resulting 136-page monster on time.

I had several motives for trying something that seemed so difficult, perhaps even impossible, when I began.

First, we could ask for a lot of money; in the full proposal we request almost $1.5 million for the three-year project, over $600,000 of which would come to my cash-strapped university.

Further, my participation in DynCoopNet depended on starting the new, innovative, internship-based Master’s degree program in geographically-integrated history, which is based on the use of Geographic Information Systems (GIS) and related information technologies. I suspected, rightly as it turns out, that the proposal would give my department the leverage we needed to obtain, in a tough financial environment, a new faculty line we needed to admit in the fall of 2007 the first cohort of graduate students.

Third, I wanted to propose a type of historical research usually only undertaken by those in other social sciences, who frequently do not have the experience with the documentary sources for the first global age, and, therefore, do not have an adequate background to evaluate whether their conclusions about this period bear any relationship with reality. I wanted to demonstrate that when real historians were involved, the richer information base and better appreciation of context that the historians provided would result in a higher degree of confidence in any conclusions.

Fourth, for historians to take full advantage of new information technologies for their research, they will need to collaborate, and unlike what happens in many other disciplines, we are neither trained nor socialized to collaborate. All of our attention is focused on carrying out individual projects, and I wanted to create a model for historians, complete with explicit ethical norms about the use of shared data and joint publication, of what collaboration to address major historical research problems would look like.

The fifth motive stemmed from an observation I have made over the course of my academic career. Over the past thirty-five years, as a discipline, history has been increasingly marginalized within the academy. A recent article in the American Historical Association's Perspectives reveals that administrators at major Midwestern research universities do not understand our forms of research and heavy dependence on the publication of monographic books, and at many institutions, the future of departments of history may be in jeopardy when higher education takes its next big
financial hit. In 2004, my state's land-grant institution, the University of Idaho, killed its history department, and although that decision was later reversed, the situation revealed to anyone watching that the need to offer some history courses does not mean that a college or university has to have a history department. I realize that prestigious colleges and universities are unlikely to get rid of their history departments in the foreseeable future--after all, many of these places still have Classics departments--but the public institutions of my state are much more like a sizable proportion of the higher education institutions. Therefore, with the DynCoopNet Project, I wanted to demonstrate that historians are capable of framing their research and teaching in ways that will attract administrative comprehension and support.

The final motive related to my own research interests. Behind my work on smuggling is a vision that I carry in my head. In his landmark 1998 book ReORIENT: Global Economy in the Asian Age, whose various revisions I began reading in 1995, the late Andre Gunder Frank argued that all of the significant places in the world became dynamically connected during the first global age so that the history of none of them can be understood without taking into account how such connections shaped developments there. To stress the analytical complexity required for an adequate understand of world history and the history of any place in the world, Frank employed the metaphor of the three-legged stool, in which each leg represented different type of information, which would all be needed to comprehend world history: leg1, environmental and economic data; leg 2, socio-political data; and leg 3, “cultural” data. However, Frank declared that he did not know how to perform the necessary multi-variate and multi-dimensional analysis of such a dynamic, complex system and its evolution. In part because he saw them as efforts to duck dealing with the complexity of human life, Frank explicitly attacked the many macro-scale approaches to world history, whether of the first global age or other periods, which have focused on reified entities such as States, Civilizations, Cultures, Feudalism, and Capitalism, which are often set within teleological metanarratives. When applied to the first global age, these accounts frequently obscure the foundation of the period's history: the interactions among locations over large geographic spaces, ultimately arriving at a global scale.

The EUROCORES call for proposals in April presented me with an opportunity to realize my vision of how to undertake the sort of global analysis that Frank recommended but could not carry out. If funded, the DynCoopNet collaborative research community will examine of the evolution of the cooperative behavior, which tied together the self-organizing commercial networks of the first global age. The subject of cooperation in commercial relationships is a particularly good focus for the kind of research that interests me because it requires simultaneous attention to the economic, socio-political, and cultural "legs" of Frank's metaphor, and the emphasis on complex networks will, of course, require the focus on connections among places, which Frank and more recently the LaPietra Report of the Organization of American Historians have insisted are necessary if the histories of any of those places is to be understood. Using European Union terms, in this Collaborative Research Project (CRP), there are seven Principal Investigators, twelve Associated Partners, and over twenty Co-operating Partners involved. The DynCoopNet Project will permit me to carry my personal research on cooperation within self-organizing smuggling networks to a level beyond the capabilities of an individual investigator and should permit me to make an original contribution to my discipline through employing in this study of smuggling concepts and techniques of abstraction and visualization with which the discipline of history is generally unfamiliar.

My interest in the institutional, intellectual and cultural factors that shaped a propensity for cooperation or for a refusal to cooperate stems from my exploration of the exercise of royal authority within the global Hispanic Monarchy. In my 2005 book, "By My Absolute Royal Authority": Justice and the Castilian Commonwealth at the Beginning of the First Global Age, I argue that it was the perceived behavior by the monarch and royal officials in relation to widely-held "constitutional"
ideas about judicial administration that determined the degree of citizen collaboration in achieving Crown goals rather than the development of a "State" with the autonomy to make policy and the capacity to mold "Society". In part, this book responded to a challenge to me from Andre Gunder Frank to show how institutions and ideas have shaped human action. In the research for this book, I noted the importance for the exercise of political authority of major municipalities governed by representatives of economically important families. Conflict, sometimes of considerable violence, among cliques or factions endangered the ability of this small group of people to sustain their disproportionate share of regional resources. Over time, many of these municipal elites developed sufficient means of collaboration to form cohesive oligarchies, and I explain this complex development in a forthcoming book, From Hostility to Affinity: The Construction of Oligarchy in Golden Age Spain (working title), which concentrates on the period 1500-1650. For this work, I make considerable use of GIS to aggregate data and visualize relationships.

In closing, I want to say a bit about my smuggling work and about the data and concepts I will be able to add to the DynCoopNet collaborative research community. I began my study of smuggling while trying to understand how the major families of the southeastern Spanish city of Murcia, who were engaged in violent factional conflict, managed to negotiate and sign in July 1565 a peace treaty more complex than the 1995 Dayton Accords, which ended the military conflict in Bosnia. The Murcians did so without any assistance from Crown officials in Madrid or the region’s royal high commissioner (corregidor). While searching in 1999 for information about the treaty in the Castilian royal archive of Simancas, in a castle outside of Valladolid, Spain, I found the surviving secret reports of an investigating judge. After reviewing the judge’s arrest lists, I realized that, in addition to their other activities, these Murcian families also sustained their wealth and influence on the basis of a clandestine political economy based on a contraband trade of products whose export or import was prohibited or highly taxed at the nearby border with the kingdom of Valencia, then a separate country. Murcian leaders, male and female, quickly resolved their factional squabbles when it appeared that these differences might somehow shine light on their participation in a “shadow empire” of clandestine commerce.

Once I realized that I had hit upon a way to examine types of human interaction sustaining complex networks extending over huge geographic spaces (in my case, from the Americas to Central Europe), I decided to spend a bit of time following this research orientation. I made use of a summer stipend in 2000 from the National Endowment for the Humanities (NEH) to follow the leads provided by the judge’s reports, and I discovered so much information that I obtained consecutive NEH and Guggenheim fellowships to produce the short book, The World of the Merchant-Smuggler (working title), which I am currently completing. Because clandestine economic activity in the past is so difficult to study from surviving sources, apparently no other scholar had uncovered so much evidence from such an early period of any other European criminal organization -- "criminal" at least from the Crown's point of view-- which was as sophisticated, geographically extensive, and such a major component of global commercial enterprise. Although historians of sixteenth-century Europe and the Mediterranean sometimes mention that smuggling was common and accounted for between 15% and 90% of commercial activity depending on the product, little attention has been paid to the way such clandestine economic activity was organized locally and in relation to global trade networks. Nor have scholars paid any significant attention to the consequences of organized crime for royal and local political institutions and the relationship between government and municipal communities. Some historians argue that Castile's ruler at the time, Philip II, received information of adequate quality for the Court to dominate political affairs. However, few sources about large-scale crime survive for Philip's domains in part because Crown authorities were usually unaware of the spatial extension of some smuggling organizations or their degree of influence over often distant municipal and financial institutions. I am using the investigating judge's reports to open
a window on the “shadow empire” of complex, illegal, networked interactions, which often overlapped the legal ones and continuously inflected Crown fiscal and military programs in ways that influenced the course of world history.

Since the publication of Jakob Burckhardt’s Die Kultur der Renaissance in Italien (Basel, 1860), the role of rulers in the creation of States has defined the start of the modern era. Within this metanarrative, many historians have considered Philip II’s absolute monarchy to be an important chapter in the State-building process. Contrary to the accounts of historians seduced by teleological stories of State development, most fundamental Castilian administrative operations depended on municipal councils rather than royal "bureaucrats". Because the locally prominent were heavily implicated in the successful operation of self-organizing smuggling networks characterized by widespread cooperation, my book on the subject will reveal a neglected aspect of the period’s political life and help explain the high levels of "corruption" within the economic and political institutions of the Hispanic Monarchy, the administration and fiscal stability of which were increasingly troubled. I expect that by challenging in a new way the still-dominant Statist vision of an “early modern” period, I will contribute to the DynCoopNet collaborative research community some innovative ways to conceptualize our data, which will result in a series of publications of great originality. Of course, it will all depend on whether we get funded.

A short bibliography of works supporting DynCoopNet's scientific case


Landes, D. (1998). The wealth and poverty of nations: why some are so rich and some so poor. London:


---

1 I am now working with geographer and mathematician Michael Sonis, who is a well-known expert on this form of spatial analysis. For example, see Sonis, 1985, 1986. Sonis will come to Idaho State University to work with us at the end of February, 2007.

2 For example, see Barabasi, 2002; Grabher, 2006; Grubesic & Murray, 2006; Newman, 2003; White, 2004. Tamar Herzog is another example of a historian who anticipated this approach in papers she wrote in the 1990s.

3 Winius, 1983.

4 Burke, 1988; Landes, 1998; North, 1981; 1991; Wallerstein, 1974. Although less well known, one finds a similar approach in Kindleberger, 1996. Bartolomé Yun Casalilla (2004) has published an impressive synthesis of recent research on Spain in the period 1450-1600, which effectively undermines much of the negative stereotype, and his book merits publication in English translation. Carlos Álvarez Nogal has underway a research project, which he expects will show that, in comparative terms, Castile had financial institutions in the Habsburg era that were among the best in Europe.

5 For example, Greif, 1994, 2001.

6 McMaster & Usery, 2005.

7 To summarize the DynCoopNet strategy and work plan, we have three goals: (A) assess and document the nature of cooperative behavior as it pertains to the self-organizing commercial networks linking various locations during the first global age; (B) assess, document, calculate and map the commercial processes through a variety of techniques; (C), integrate the human behavioral and economic factors evaluated in A and B to assess, often through comparison, and map observed evolution of cooperation in self-organizing commercial networks over various temporal scales and both local and regional spatial scales.

We are particularly interested in the evolution of cooperating behavior (and its co-evolution with other ecological, economic, political, and cultural factors) and the possible emergence of new forms as the scale of commercial interactions increased to an ultimately global dimension. Rather than a type of deductive mathematical modeling made famous by Wolfgang Weidlich and his collaborators (Weidlich 2000; Weidlich and Haag 1983), our project requires an approach in which the processes of model creation and database development interact, as recommended by Weidlich’s critics (Lesins 2004; Rosser 2005. See also, Crutchfield 1994; Henrich 2004). In the last decade or so, some economists have shown considerable interest in the importance of understanding self-organizing networks in order to grasp economic complexity (Fujita, Krugman and Venables 1999; Krugman 1991, 1995, 1996), and some have even pointed to the need to build into models the characteristics of the individual actors (Rosser 1999, 2005), but as yet no clearly satisfactory way has been presented to do so, especially in cases where one must take into account often strikingly different perspectives about the world, such as those involving
interactions between people from African, European, and Native American cultural environments. We are unaware of anyone who has proposed a satisfactory scheme for modeling the complexity of this type of networked interaction within a spatially large, ultimately global geographic area and over long periods of time, which can be employed to build a GIS for data organization and visualization. Therefore, the DynCoopNet "deliverables" will be significant at this level as well.

8 The *hawala* network of our time is a good example of the ability of merchants to maintain reputation throughout large geographic spaces. On the *hawala*, see Ballard, 2003, 2005.

9 The DynCoopNet collaborative research community will address a number of interrelated questions that were highlighted in the TECT call for proposals. For example, did the spatial organization of the trading networks, the level of risk, the exercise of power or division of labor in more complex organizational schemes influence patterns of cooperation among actors? Within their social and cultural environments, how did merchants maintained the "creditworthiness" (reputation, trust), and was reputation really necessary for such a remarkable degree of cooperation over often great distances and with people they sometimes did not know? Were the places characterized by cooperation in trading activities also communities within which high levels of other forms of cooperation were evident (for example, social mechanisms reducing factional conflict, investment in common religious devotions, communal farming and herding)? Did new forms of communication in the first global age, particularly cartography and the printed book, contribute to the emergence of new forms of human cooperation? Did the emergence of cooperative commercial activity constitute a historical process that contributed to greater tolerance and conflict reduction in any part of the global economy? Under what circumstances did cooperation in trading activity break down or fail to develop? What sorts of behavior undermined the "trust" among parties engaged in trading activity? More broadly, what were the historical pathways by which within-group and between-group patterns of cooperation and trade emerged in the first global age? Did the patterns of cooperation characteristic of the behavior of some groups provide them with some comparative advantage? If so, in what circumstances? Was there something about cooperation in self-organizing networks that gave participants the energy, time, and knowledge necessary for innovation to gain a comparative advantage over groups and networks where cooperation was less frequent? Did the cooperation characteristic of self-organizing commercial networks of the first global age emerge from behavior that had developed earlier for other reasons? Were the evolutionary processes of commercial cooperation in the first global age ones that can be linked to longer evolutionary-historical sequences?

10 The term was coined by Israeli mathematician Michael Sonis for the book on the diffusion of innovations on which he is currently working. See Sonis, 1991, 1992, 2000, 2001. Sonis is a member of the DynCoopNet collaborative research community.

11 Because both the program and the required position are unusual in the discipline of history, I will provide the position announcement for clarity. My department has also created a new undergraduate curriculum whose "spatial turn" is clearly indicated in its nine "Historical Thinking Objectives," which are included in history's section of the Idaho State University online catalogue. Here is the ad:

**History and Geographic Information Systems (GIS).** The Department of History at Idaho State University invites applications for a new tenure track, assistant professorship from scholars who have extensive experience and training in the use of GIS and other tools of spatial analysis in the study of history. The successful candidate will be one of the leaders in the development of ISU’s new GIS-based M.A. program in Historical Resources Management and a new undergraduate curriculum with a spatial emphasis. This person will teach core courses in the graduate curriculum, train graduate students in the use of GIS in historical studies, and develop undergraduate courses in his or her area of specialization. The field of specialization is open, though candidates should not duplicate the teaching and research priorities of the current faculty. A Ph.D. in history, historical geography, or related interdisciplinary degree is required by the time of hire in August 2007. Teaching experience and an interest in developing funded research are highly desirable. Idaho State University is a comprehensive teaching and research institution located in Pocatello, a community of approximately 60,000 nestled in a scenic mountain valley in southeastern Idaho. ISU is an AA/EOE and encourages applications from a diverse set of candidates. Apply with a letter of introduction, c.v., and three letters of recommendation submitted by December 8 to: Dr. Allan Christelow, Chair; Department of History; Idaho State University; 921 S. 8th Ave., Stop 8079; Pocatello, ID 83209-8079


13 For example, see Parker, 1998.