THE SOCIAL STRUCTURE OF THE WORLD POLITY

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Abstract

A rapidly growing sociological literature demonstrates that many policies of modern states, such as educational expansion, environmental protection, and human rights, are shaped by embeddedness in the world polity. The world polity is conceptualized as a network of international organizations and states, and yet the structure of this network is rarely examined. This relative inattention to the social structure of the world polity is surprising, given that world polity theory implies that the world polity should be an increasingly dense and even field of association. This paper explores essential structural implications of world polity theory using a formal network analysis of the population of intergovernmental organizations since 1820. Using the language of network analysis, the world polity is a two-mode network: States are interlinked through memberships in organizations, and organizations are interlinked through their member states. Accounting for this bimodality reveals growing fragmentation in the world polity driven by intergovernmental organizations that have become less densely connected by common member states, increasingly centralized around a few prominent organizations, and increasingly unequal in structural position. This fragmentation reflects, in part, a recent increase in the regionalization of the world polity.
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As sociologists have turned their attention to globalization, research on its consequences has overshadowed research on its forms, and this is particularly true for political globalization. We know a great deal about the effects of political globalization, or “the shifting reach of political power, authority and forms of rule” (Held, McGrew, Goldblatt and Perraton 1999, p. 32), on the modern state. For instance, we know that involvement in international organizations shapes policy in the domains of human rights (Hafner-Burton and Tsutsui 2005), democracy (Wejnert 2005), environmental protection (Frank 1997; 1999; Schofer and Hironaka 2005), same-sex sexual relations (Frank and McEneaney 1999), women’s suffrage (Ramirez, Soysal, and Shanahan 1997), education (Bradley and Ramirez 1996; Meyer, Ramirez and Soysal 1992; Schafer 1999; Schofer and Meyer 2005), and population (Barrett and Frank 1999; Barrett and Tsui 1999). Much of what we know comes from systematic empirical research inspired by world polity theory, an institutionalist approach that explains the unexpectedly high and rising level of isomorphism among states as a function of embeddedness in a “world polity” (Boli and Thomas 1997; Meyer, Boli, Thomas and Ramirez 1997), conceptualized as a network of states, societies, and international organizations.

This paper examines the social structure of the world polity. The depth of knowledge about the policy effects and cultural content of the world polity contrasts starkly against our shallow understanding of its structure, and this contrast is all the more surprising in light of the contradictory claims made by world polity theory (and its competitors) about the structure of the world polity. The world polity is said to be: “A world of Durkheimian and Simmelian integration” (Meyer et al. 1997, p. 175), a “decentralized world” (Meyer et al. 1997, p. 164), “a
unitary social system, increasingly integrated by networks” (Boli and Thomas 1997, p. 172), and “a rapidly growing web of global links that envelop the world without regard for local topography and conditions” (Boli, Loya and Loftin 1999, p. 77). Thus, world polity theory carries static and dynamic structural implications. Statically, the contemporary world polity should exhibit a densely interconnected, decentralized, even social structure. Dynamically, if there is fragmentation, centralization, and structural inequality in the network, these structural characteristics should be in decline.

To explore these implications and build on the sociology of the world polity, I use data on the population of intergovernmental organizations (IGOs) as it has grown since the first IGO was established in the early 19th century. IGOs are one type of social organization, along with international nongovernmental organizations (INGOs) and transnational corporations (TNCs), where “world culture becomes embedded” (Boli and Thomas 1997, p. 172). IGOs, along with TNCs and states, have been characterized as “the dominant global actors” in world culture (p. 173). I analyze IGOs because the structure of the IGO field should correspond most closely to the even field of association envisioned by world polity theory, given that inequality in the number of IGO memberships has decreased dramatically (Beckfield 2003) and “IGO memberships thus appear to be practically compulsory for states” (Boli et al. 1999, p. 76). I examine the 1820-2000 period to show the complete evolution of the IGO field that began well after the establishment of the Westphalian system of sovereign nation-states in the 17th century, through the Concert of Europe that held for the first half of the 19th century, the major European wars of the late 19th century, early attempts at global governance such as the League of Nations.

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2 Boli (2005, p. 384) identifies the World Trade Organization as one such organization, noting that “while hard-boiled politicking among competing states is surely at work in this process, so too is global cultural construction. The WTO’s rules and agreements, globally applicable and reflective of universalistic principles, have the character of world law that shapes the context of action for firms, states, and other actors.” It turns out that the WTO is one of the organizations at the very center of the network of IGOs shown below in Figure 9.
in 1919, the institutionalization of the United Nations system in 1945, decolonization in the 1960s, and the collapse of the Soviet Union in the 1980s. Analyzing the world polity as an evolving social network over this period reveals that even in the context of a declining (and now low) level of inequality in the number of IGO ties, there is a rising (and now high) level of inequality in the pattern of IGO ties. This social structure, reflects, in part, place, as the world polity exhibits significant regionalization along with globalization.

Although I argue that these findings have important implications for several key debates in the literature on globalization (see Guillén 2001a), inquiry into the social structure of the world polity is motivated by world polity theory, to which I now turn.

SOCIAL STRUCTURE IN WORLD POLITY THEORY

In an influential programmatic statement of world polity theory, Meyer et al. (1997) use the imaginary example of a newly-discovered island society to elucidate their proposition that “many features of the contemporary nation-state derive from worldwide models constructed and propagated through global cultural and associational processes” (Meyer et al. 1997, p. 144).³ The hypothetical island society clearly illustrates “what has already happened to practically all of the societies of the world after their discovery and incorporation into world society” (p. 146). Focusing on the associational process of integration into the world polity, the “island society would quickly come under the scrutiny of ... international organizations” and “its state and its people would be expected to join international bodies” (p. 165).

What international bodies would the island join? For world polity theory, the United Nations (UN) and its agencies (e.g., the International Monetary Fund; World Bank Group; UN

³ Citation data from the Social Sciences Citation Index confirm Meyer et al.’s significant influence: As of 2006, the article was the most frequently cited of volume 103 of the American Journal of Sociology (1997-1998), and had also received more citations (200) than any article appearing in volume 62 of the American Sociological Review (1997).
Education, Science, and Culture Organization; International Labour Organization; and World Health Organization) represent the ideal-typical international organizations. These organizations influence national policy, distribute resources, and include nearly every state in the international system as members. In the language of social network analysis, in joining the UN the island state would become a “node” with “ties” to other states in the “network.” The network could be characterized as “dense” (every state has a tie to every other state), “decentralized” (every state has the same number of total ties), and “cohesive” (states cannot be partitioned into a densely-connected core and a sparsely-connected periphery).

Of course, the world polity also includes other kinds of international organizations, including organizations that restrict membership by level of economic development (e.g., the Organization for Economic Cooperation and Development), geographic region (e.g., the Association of Southeast Asian Nations), economic sector (e.g., the Organization of Petroleum Exporting Countries), linguistic heritage (e.g., Francophonie Institutionnelle), religion (e.g., Organization of the Islamic Conference), or geopolitical alignment (e.g., the North American Treaty Organization). This complicates the story. Again using the language of social network analysis, the organizational heterogeneity of the world polity highlights the “bimodality” of the network. That is, the network formed by IGOs includes two types of nodes: IGOs and states. The multimodal character of the world polity is accounted for in world polity research by its attention to the roles of multiple actors, including states, IGOs, national societies, and INGOs (Boli and Thomas 1999), but the implications of this multimodality for the social structure of the world polity have not been explored.

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4 The United Nations also has extensive formal and informal ties to INGOs, and the role of INGOs in the UN has grown in the 1980s and 1990s (Pubantz 2005).
Owing to its bimodality, the network of IGOs and states can be thought of as two networks. One is a network of IGOs, where ties between two IGOs are formed by states that are members of both organizations; the other is a network of states, where ties between two states are formed by the organizations that both states hold memberships in. For instance, if the world polity is a world where states join IGOs that are increasingly akin to the United Nations, the IGOs would form a network densely interconnected by states, and the states would form a network densely interconnected by organizations.

While world polity theory envisions a densely interconnected global network, the theory’s dynamic implications are actually stronger. States are becoming more similar as they are integrating more deeply into the world polity. Nothing in world polity theory or its empirical applications suggests that the world polity has always been densely interconnected, only that it has become more so. That world polity theory is fundamentally a theory of change is evinced by the use of event history analysis and other techniques for longitudinal data in so many studies that test hypotheses drawn from the theory (Boli and Thomas 1999; Frank, Hironaka and Schofer 2000; Hafner-Burton and Tsutsui 2005; Polillo and Guillén 2005; Ramirez, Soysal, and Shanahan 1997; Schofer and Hironaka 2005; Strang and Chang 1993; Wejnert 2005).

For instance, Frank et al. (2000) offer compelling evidence for the institutionalist argument that “the blueprints for nation-state involvement [in environmental policy] are drawn in world society, from where they diffuse to individual countries” (p. 96). The assembly of evidence in their article follows a logic common to much world polity research: The content of world culture in a given domain is examined, and event history analysis is used to examine policy change (in this example, indicators of change include the adoption of environmental

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5 Change in the structure of the world polity is said to be reflected both in the increasing connections among states, and in the increasing connections among international organizations (Boli 2005, p. 387). For the structure of the network, this implies increasing density and decreasing centralization in both the inter-state and inter-IGO networks.
impact assessment legislation and the foundation of environmental ministries). The analysis shows that these policy changes are driven, in part, by “the extent to which countries have open conduits to world society” (p. 105), measured as memberships in IGOs and INGOs. As in other studies, Frank et al. show significant effects of IGO and INGO memberships on policy change. To adopt the metaphor of networks as plumbing (Podolny 2001), world polity research shows that the diameter of the “pipes” that join states and international organizations is positively associated with the adoption of policy scripts.6

Recently, debate has turned toward the question of “decoupling” (Meyer and Rowan 1977; Meyer et al. 1997, pp. 154-6), or the frequent disconnect between stated policy and actual practice. Buttel (2000), for one, argues that the adoption of environmental policies may reflect mere “window dressing” that has no impact on the environment itself (Buttel 2000). Here too though, world polity researchers have marshaled evidence to counter these critical claims, showing that involvement in IGOs and INGOs improves actual human rights practice and environmental quality (Hafner-Burton and Tsutsui 2005; Schofer and Hironaka 2005).

Before traveling further down this road, it is informative to step back from this debate and consider the assumptions about the social structure of the world polity that underlie research on how the world polity affects the national state. Research on the effects of integration into the world polity assumes an increasingly densely interconnected, singular world polity, where policy scripts diffuse smoothly among organizations and states. As with the imaginary island society, states increasingly “plug in” to “the” world polity, joining global organizations like the United Nations. World polity research recognizes the tremendous growth in the population of international organizations (Boli and Thomas 1997, 1999), but these organizations are assumed

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6 The metaphor comes from economic sociology, where networks have been viewed as “the ‘plumbing’ of the market” (Podolny 2001, p. 33). See Knorr Cetina (2004) for a turn from “pipes” to the “scopes” that form the infrastructure of global financial markets.
to be global or at least increasingly global in scope, forming a singular world polity rather than
multiple (regional?) polities. 7 If international organizations were increasingly global in scope,
this would generate a social structure with increasingly dense inter-organizational ties through
states, and increasingly dense inter-state ties through organizations.

Would it mean anything for world polity research if this assumption of densely integrated
networks of organizations and states were unrealized? To put the matter more sharply, it could
be argued that assuming a cohesive social structure is unnecessary for world polity research,
given that there are robust empirical associations between states’ ties to that structure (whatever
it might be) and national policy. It could be the “plugging in” (Boli and Thomas 1999:287) and
not the plugging in to what that matters for states. Even so, the structure of the world polity
should still impact how we understand its effects. Accounting for structure might produce a
sharper rendering of the mechanisms through which the world polity impacts states, in that
regional organizations might intervene between global organizations and states in the process of
policy diffusion. If regional organizations represent key “joints” or even “valves” in the
plumbing of the world political network, then the social structure of the world polity might offer
a partial account of decoupling, as practice may be more tightly coupled to policy within densely
integrated regional polities. For the content of world culture at the global level, this implies that
worldwide models may cohere better and diffuse more easily among densely interconnected
organizations, and we should observe highly structured heterogeneity among policy scripts.
Ultimately then, allowing for a more complex structure and problematizing the correspondence
between structure and content in the world polity might generate new hypotheses and explain

7 Of course, research in the tradition of world polity theory acknowledges that there is a great deal of substantive
heterogeneity among international organizations: the world polity is divided into a wide range of sectors (Boli and
Thomas 1997). Boli (2005, p. 394) notes that “globalized authority is highly fragmented and differentiated, and
within each distinct sector or niche it is sometimes highly effective, sometimes little more than symbolic. It is,
nonetheless, very much on the upswing.”
some of the anomalies of existing world polity research (e.g., compare Cole [2005] and Hafner-Burton and Tsutsui [2005] on the effects of international organizations).

The first step toward understanding the implications of the social structure of the world polity for world polity theory is to explore the essential structural properties of the network. Work on the structure of the world polity, like the research on the effects of the world polity, has operationalized involvement in the world polity as an attribute of states rather than embeddedness in relational networks of states and organizations (Beckfield 2003; Boli et al. 1999; Jacobson, Reisinger and Mathers 1986; Shanks, Jacobson and Kaplan 1996; Rey and Barkdull 2005; Wallace and Singer 1970). This means that the social structure of the world polity has not been observed. For instance, very different social structures result from a world where states increase their involvement in a growing number of global organizations like the UN, compared to a world where states increase their involvement in a growing number of regional organizations like the European Union. The former world yields a dense, even, cohesive social structure; the latter, a sparse, uneven, fragmented one.

SOCIAL STRUCTURE IN GLOBAL NEO-REALISM

World polity theorists cast their arguments against those of “global neo-realism,” a rubric that encompasses approaches from political science, especially realist theory from the international relations subfield; and sociology, especially world-systems theory (Boli and Thomas 1997, pp. 171-2; Meyer et al 1997, pp. 146-8). The key distinction between world polity theory and global

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8 Wallace (1975) provides an early and partial exception to this tendency by examining the effective distance between dyads of states based on their common membership in IGOs, and Kim and Barnett (2000) examine the network of IGOs in the international telecommunications field. While the network structure of the world polity itself has tended not to be the object of empirical scrutiny, Ingram, Robinson and Busch (forthcoming) and Hafner-Burton and Montgomery (forthcoming) show that IGO network ties are associated with increased international trade and diminished interstate conflict.
neo-realism – and the signal contribution of world polity theory – is that world polity theory accounts for increasing isomorphism among states by taking culture more seriously. The argument is that states increasingly look alike because they are increasingly embedded in a world polity (an organizational structure) that expresses a world culture (structures of meaning) that constitutes the state as an actor, defining what it means to be a state, and prescribing what states do. In contrast, global neo-realist approaches downplay or neglect the role of culture, highlighting instead conflict and power. Here, the argument is that the “world polity” reflects and reproduces pre-existing structures of domination, as international organizations serve as “boards of directors for ruling states” (Boswell and Chase-Dunn 2000, p. 238). In this view, if the structure of the world polity is anything more than epiphenomenal, its effect is merely to amplify and reproduce the pre-existing political-economic structure.

For neo-realist approaches like world-systems theory, intergovernmental organizations are established in an anarchic arena of global competition, where states form and join international organizations to further their material interests (Boswell and Chase-Dunn 2000; Jacobson 1979; Waltz 1979). If the United Nations is the paradigmatic IGO for world polity theory, then organizations like the Organization for Economic Co-operation and Development (OECD) that restrict membership to developed countries, and regional organizations like the European Union, are paradigmatic for neo-realism. While the use of IGOs for inter-state competition, especially by non-core states to resist the liberal economic order, has been debated (Krasner 1985), the neo-realist implications for the social structure of the world polity have been explored only as they apply to the level (not the pattern) of world polity involvement (Beckfield 2003; Boli et al. 1999; Jacobson, Reisinger and Mathers 1986; Shanks, Jacobson and Kaplan 1996; Wallace and Singer 1970).
The structural implications of neo-realism follow from the types of IGOs that are established by states. For instance, the Group of 24 (G24) was founded in 1971 by 24 less-developed countries to represent the interests of poor countries in international financial matters and counterbalance organizations like the Group of 7 (or G7, now G8) industrialized countries. To see the structural implications, imagine that the world polity consists of just the G8 and G24. The network formed would be bimodal, with two IGOs and 32 states. In turn, the bimodal network generates two unimodal networks: A network (here, a dyad) of two IGOs, and a network of 32 states. The IGO dyadic network would be disconnected, since no G24 member also belongs to the G8. Likewise, the inter-state network would also be disconnected, with all G24 states tied to all other G24 states, and all G8 states tied to all other G8 states. These images correspond quite closely to the neo-realist depictions of a world riven by international conflict and competition, where, for instance, European states form IGOs like the European Union and Southeast Asian states form IGOs like ASEAN in pursuit of (geopolitical and domestic) interests. If there were no global organizations like the United Nations and all IGOs were formed based on geographical or other attributes, the world polity as a network would be sparse instead of dense, fragmented instead of cohesive, and, given that resource-rich states belong to more IGOs (Beckfield 2003; Boli et al. 1999), highly centralized and structurally uneven.

Of course, the world polity is shaped both by inclusive organizations like the United Nations and exclusive organizations like the European Union. Thus, nearly all states have at least one tie to nearly all other states, although they may have a greater number of ties to certain states than others. And nearly every IGO is likely to be connected to nearly every other IGO by at least one common member state (e.g., Germany forms a tie from the EU to the UN), but some IGOs may share more member states than others. This suggests that in static terms, the world
polity blends structural density with sparseness, decentralization with centralization, equality with inequality. Given their theoretical relevance, it is essential to estimate these static properties. But the dynamics matter more. This is because the theories in question are theories of change. The real conflict between the social structure posed by world polity theory and the social structure envisioned by neo-realism lies in how the structure has evolved: Has it become more or less dense, more or less centralized, more or less an even field of association?

Consider once again the newly-discovered island society. Global neo-realism anticipates that the island state would pursue its interests on the global stage by forming strategic alliances with other states and joining international organizations. It would probably seek membership in global organizations like the United Nations, thereby tying itself to nearly every other state in the international system, but, assuming limited economic resources and a location in the Pacific Ocean, it would probably also seek membership in organizations of poor countries like the G24, and regional organizations like the South Pacific Community and Pacific Island Forum. If the example of the island illustrates the incorporation of all national states into the world polity (Meyer et al. 1997, p. 146), then the world polity should exhibit some degree of regionalization. The degree of this potential regionalization of the “world” polity is unclear. Although debate over regionalization informs studies of economic globalization (Fligstein and Merand 2002; Kim and Shin 2002), scholarship on political globalization tends to neglect the substantial role of geography (Nierop 1989; O’Laughlin and van der Wusten 1990; van der Wusten and Nierop 1990). While global neo-realism anticipates regionalization throughout the period, as states consistently pursue local interests, world polity theory suggests that regionalization should peak after World War II, after “extensive universalistic organizing” of global IGOs encourages organizing at the regional level (Boli and Thomas 1999, p. 31). Existing political-geographic
research on the question of regionalism in the world polity shows significant and growing regional clustering, but this research is limited to the 1950-1980 period (Nierop 1989).

DATA

To explore the structural implications of the world polity and neo-realist approaches, I use newly available data on the population of intergovernmental organizations assembled and distributed by Pevehouse, Nordstrom and Warnke (2004) as part of the Correlates of War project. The data consist of binary matrices of IGOs and states, where 1s denote membership ties among IGOs and states in a given year, and 0s indicate non-membership. For the purposes of this paper on the evolution of social structure in the world polity, the key advantages of this dataset are its wide historical scope and its comprehensive inclusiveness of IGOs. An IGO is included in the data if it (1) includes at least three member states, (2) holds regular meetings at least once per decade, and (3) has a permanent secretariat and headquarters (Pevehouse et al. 2004). Information on IGOs and their members comes from multiple sources detailed in Wallace and Singer (1970) and Pevehouse et al. (2004), including the Yearbook of International Organizations, published by the Union of International Associations (UIA). The UIA is the standard source for data on world polity ties (Beckfield 2003; Boli and Thomas 1997; Cole 2005). The dataset includes information on the memberships of a total of 495 separate intergovernmental organizations that

9 Pevehouse et al. (2004, p. 103) note that “the broadest understanding of what constitutes an IGO is that the organization (1) is a formal entity, (2) has states as members, and (3) possesses a permanent secretariat or other indication of institutionalization such as headquarters and/or permanent staff. … IGOs are differentiated from nongovernmental organizations (NGOs) based on the fact that the latter organizations’ memberships are composed of individual persons, interest groups, or businesses.” A description of the project, and the IGO data used here, can be found in the cited article, or on-line at http://www.correlatesofwar.org/.

10 Ingram, Robinson and Busch (2005) use these data in a study of international trade. Oneal and Russett (2001) and Russett and Oneal (2001) employ an earlier version of the dataset in research on militarized international disputes.

11 Restricting the sample of IGOs to a limited subset of highly visible and especially influential organizations is an important next step. The social structure of the world polity may vary according to the prominence of the organizations that are analyzed, with prominent IGOs more likely to be global IGOs. Elsewhere, I find that the substantive conclusions reached in this paper are identical in an analysis restricted to prominent IGOs (Identifying reference omitted).
existed at some point since 1815. Both the list of IGOs and the list of states are time-varying, according to the entries and exits of states and organizations in the international system.\textsuperscript{12}

Consistent with the focus of this paper on long-term structural change in the world polity, the analysis uses data at 10-year intervals: 1820, 1830, and so on through 2000. Given the bimodal structure of the network of IGOs and states, each wave of data produces three matrices for analysis: An asymmetrical matrix where cell $x_{ij}$ indicates the membership status of state $j$ in IGO $i$, a symmetrical matrix where cell $x_{ij}$ counts the number of IGO memberships shared by states $i$ and $j$, and a second symmetrical matrix where cell $x_{ij}$ counts the number of member states shared by IGOs $i$ and $j$. In other words, there is a network of IGOs and states, a network of states tied through IGOs, and a network of IGOs tied through states. Each network reveals distinct aspects of the social structure of the world polity. The first, bimodal network reveals the density of the world polity as a whole, while the unimodal networks reveal the centralization (or lack thereof) around key nodes, and structural inequality (or lack thereof) among positions in the network. The network of states can also be examined for evidence that states from the same geographic region share more IGO ties than states from different regions.

Figure 1 illustrates the bimodality of the network of IGOs and states, using data from the year 2000 on three IGOs: the European Union (EU), North American Free Trade Agreement (NAFTA), and Organization for Economic Co-operation and Development (OECD). Panel A shows a graphical representation, where the IGOs are indicated by circles, and the states are indicated by squares. As one can note, all members of the EU and NAFTA also belong to the

\textsuperscript{12} The states included are those that meet the criteria for inclusion in the interstate system, as defined by the Correlates of War Project (2005). The criteria restrict the list to entities that (1) “prior to 1920, … have population greater than 500,000 and have had diplomatic missions at or above the rank of charge d’affaires with Britain and France” and (2) “after 1920, [have membership in] the United Nations or League of Nations, or have population greater than 500,000 and receive diplomatic missions from two major powers.” For further details, also see Small and Singer (1982).
OECD, but several OECD member states belong neither to the EU, nor to NAFTA, both of which are regional IGOs. Panel B shows the matrix representation of the same data, with the names of states truncated to save space. Panel C shows how the bimodal IGO-state network is transformed into a unimodal IGO network. The numbers on the diagonal (15, 3, and 29) indicate the size of each IGO, while the numbers on the off-diagonals indicate the number of member states shared in common by each pair of IGOs. The unimodal network of states is not shown, because even this small extract from the network produces a large 29 X 29 matrix of states.

Both the network of IGOs and the network of states can be analyzed as a valued matrix, where the cells are counts of ties, or as a binary matrix, where the cells take the value of 1 if there is at least 1 tie. For instance, in the valued IGO network, the value of the tie between the European Union (EU) and the International Monetary Fund (IMF) in 2000 is 15 because all 15 EU member states in 2000 were also members of the IMF. On the other hand, in the binary IGO network, the value of this tie equals 1. Returning to the metaphor of a social network as plumbing, the binary matrices reveal the schematic blueprint of the pipes, or what is connected to what; while the valued matrices add information on the diameter of the pipes. It is important to examine each aspect of the social structure of the world polity, because there may be less structural inequality in the presence/absence of network ties than in the strength of ties.

In sum, at each 10-year interval between 1820 and 2000, the root data matrix is bimodal and binary, where the ties are between IGOs and states. From this root data matrix derive four matrices that capture distinct aspects of network structure: (1) A valued matrix where the cells
count ties between IGOs, (2) a binary matrix where the cells indicate the presence or absence of a tie between IGOs, (3) a valued matrix where the cells count ties between states, and (4) a binary matrix where the cells indicate the presence or absence of a tie between states.

ANALYSIS

To investigate the structural implications of world polity theory and global neo-realism, I use network analytic techniques to examine change in several essential structural properties: Density, centralization, and inequality. To examine regionalization in the world polity, I calculate correlations between the observed network and a model network where ties are based on region. All analyses were performed using the program Ucinet 6 (Borgatti et al. 2002).

Density, a fundamental property of social networks, is calculated as the percentage of possible ties in the network that are actually observed (Wasserman and Faust 1994). The numerator is a simple count of ties, but the denominator differs according to the modality of the network. In a unimodal network, the denominator is the number of nodes in the network, multiplied by the number of nodes minus one (nodes in these networks cannot be tied to themselves). In a bimodal network, ties can only be observed between actors in different modes (here, between IGOs and states), so the relevant denominator is the number of actors in the first mode multiplied by the number of actors in the second mode (Borgatti and Everett 1997). Density is calculated only for the binary networks, and ranges from 0 (where no ties are observed) to 1 (where all possible ties are observed).

Following the Simmelian insight that triads make more stable groups than dyads, Moody and White (2003, p. 103) operationalize structural cohesion in a social network as a function of connectivity: “structural cohesion is defined as the minimum number of actors who, if removed from a group, would disconnect the group.” As with many graph-theoretic properties, connectivity is a property of binary networks that does not extend readily to valued networks such as those analyzed here (Wasserman and Faust 1994, p. 76). Also, this measure of structural cohesion produces trivial results when applied to the inter-state network, because it is disconnected until 1960.
The centralization of a network is the degree to which it resembles a “star” network, where one central node has ties to every other node, but the other nodes do not have ties among themselves. For instance, if the UN shared a member state with all 329 other IGOs that populated the network in 2000, but these 329 other IGOs did not overlap in their membership, the IGO network would be perfectly centralized. Like density, centralization is a structural property of the network as a whole. It is calculated as:

\[ C_D = \sum \left( C_D(n^*) - C_D(n_i) \right) / [(g - 1)(g - 2)] \]

where \( C_D(n^*) \) represents the degree centrality of the most central node, \( C_D(n_i) \) represents the degree centrality of node \( i \), and \( g \) represents the total number of nodes in the network (Wasserman and Faust 1994, p. 180). Centralization is calculated for binary networks, and ranges from 0 (perfectly decentralized) to 1 (perfectly centralized).

While centralization captures one sense of structural inequality or unevenness, it is limited in that networks can have more than one central node. For instance, some networks resemble a core/periphery structure, with a set of tightly interconnected nodes and a peripheral set of sparsely interconnected nodes (Borgatti and Everett 1999). In core/periphery structures, it is possible to assign a “coreness” score to each node that quantifies how “close” each node is to the dense core of the network. In a maximally dense network, all nodes would have the same coreness score, because every node would belong to the dense core, and no sparse periphery would exist. Thus, inequality in coreness scores can be used to assess overall network-level structural inequality. I use the genetic algorithm developed by Borgatti and Everett (1999) to assign coreness scores, and I use the Gini coefficient to measure inequality in the scores. The Gini coefficient is a commonly used measure of inequality (see Firebaugh [1999] for an application) that varies from 0 (perfect equality) to 1 (perfect inequality).
Finally, to assess the regionalization of the world polity, I calculate the correlation between the observed network of states and a hypothetical model network where states are interconnected only within geographic regions. The regions are the six “world macro-regions” designated by the United Nations: Africa, Asia, Europe, Latin America, Northern America, and Oceania (UN 2005). In the model regional network, all African states are connected to all other African states but to no other states; all European states are connected to all other European states but to no other states; and so on for each region. The Pearson correlation between this model network and the observed world polity network is calculated using the Quadratic Assignment Procedure (QAP) as implemented in Ucinet 6, which randomly reorders, or permutes, the rows and columns of the observed data matrix 2,500 times, recalculating the correlation with the model matrix for each permutation of the observed matrix. This procedure gives a non-parametric test of “statistical significance” that is appropriate for non-independent network data (see Baker and Hubert [1981] for details, and see Padgett and Ansell [1993] and Kadushin [1995] for applications). The Pearson correlation ranges from -1 to 1.

RESULTS
I present the results in a series of figures. Figures 2-8 trace change in the relevant properties of the inter-state and inter-IGO networks as they evolved over the 1820-2000 period, and Figures 9 and 10 represent these networks as graphs for the year 2000.

Figure 2 verifies the world polity structuration that has been noted in previous work (Boli and Thomas 1997, 1999). The population of IGOs grew slowly from one (the Central Commission for the Navigation of the Rhine, whose members were Baden, Bavaria, France, Germany, Hesse, and the Netherlands) to 67 in 1930, declined to 63 in 1940, and then grew
rapidly to a total of 330 IGOs by the year 2000. The 1930-1940 decline in the population of IGOs is consistent with the decline in international trade in the interwar years (Chase-Dunn et al. 2000), and the “steep fall” in the formation of international nongovernmental organizations (INGOs) leading up to the second World War (Boli and Thomas 1997, p. 175). Interestingly, this correspondence between political globalization (as represented by IGOs and INGOs) and economic globalization (as represented by international trade) offers some support for the argument that international markets demand international rules (Fligstein 2001; Fligstein and Stone Sweet 2002), but the more directly relevant point here is that the growth trend in this population of IGOs matches other measures of world polity formation.

FIGURE 2 ABOUT HERE.

Figure 2 also shows the widely-noted increase in the number of sovereign states in the international system. Through the Concert of Europe in the early 1800s and the European wars of the later 1800s, this number grew steadily but very slowly. There was a noticeable increase after the establishment of the League of Nations in 1919, and then the rate of growth changed dramatically around 1940. After 1940, the number of states in the international system grew from 65 to 190 by 2000. The overall trend, especially the rapid increase since 1940, is consistent with institutionalist arguments that the world polity (precisely, through the UN system) legitimizes the state as a form of governance: “World society contains much cultural material authoritatively defining the nation-state as the preferred form of sovereign, rational actor” (Meyer et al. 1997, p. 158).
The rapid growth in the number of states and IGOs in the world polity could have various consequences for the overall structure of the network. If the new IGOs are universal or nearly-universal in their membership (like the United Nations, founded in 1945), and if states join IGOs upon entry into the international system (like the example of the island society), then the network as a whole should become more densely interconnected and less centralized. States should become more even in their levels of embeddedness in the world polity, and states should become more densely interconnected through their common IGO memberships. Likewise, IGOs should become more densely interconnected through their common member states. Conversely, if the new IGOs are less like the United Nations and more like the European Union (founded as the European Economic Community in 1957), or if states resist IGO membership, then the network would become increasingly sparse and fragmented. In sum, growth in the populations of IGOs and states does not, by itself, determine the nature of change in network structure.

Figure 3 shows trends in descriptive statistics on IGO involvement – as an attribute of states – to facilitate comparison of these results with results from previous world polity research. Consistent with world polity theory, the average number of IGO memberships held by states increased rapidly, from less than 1.0 through 1860, to 59.1 by 2000. The standard deviation also increased, but not as quickly as the mean. Consequently, the coefficient of variation decreased from 1.68 in 1820 to .59 by 1910, and further to .37 by 2000. These results are consistent with the findings that inequality in IGO and INGO ties decreased from 1960 to 2000 (Beckfield 2003), but they extend this earlier work by showing that there has been an even longer-term trend toward evenness in the depth of states’ embeddedness in IGOs.

FIGURE 3 ABOUT HERE.
So far, the results shown here replicate previous work using newly available data compiled by Pevehouse et al. (2004). Next, I turn to the network analysis, which examines involvement in the world polity as a relational network rather than an attribute of states. Figure 4 shows trends in the density of three networks: The bimodal network of IGOs and states, the network of states with overlapping IGO memberships, and the network of IGOs with shared member states. The density of the bimodal network decreases from 1820 through 1860, increases and remains at a higher level from 1870 through 1940, then decreases slightly through 2000. The increase from 1860 to 1870 was driven by the founding of two universal IGOs in the intervening years: The International Telecommunications Union and the Universal Postal Union. The post-1940 decrease in the density of the bimodal network is somewhat surprising in light of the founding of the United Nations and other universal IGOs after World War II. Also surprising is the overall sparseness of the bimodal network throughout the period: In every decade, fewer than 40% of the possible ties between IGOs and states are realized.

The density of the inter-state network is more consistent with world polity theory: Very low proportions of possible ties among states are realized until the founding of universal IGOs after 1860, and then the density increases rapidly and to a very high level by the turn of the century. By 1900, fully 88% of possible ties among states are realized. With the exception of two slight dips, the density of the inter-state network continues to increase through 2000, to 97% of possible ties realized. This means that nearly every state holds at least one IGO membership.
in common with every other state. If density eases institutional diffusion and enhances normative emulation (DiMaggio and Powell 1983, p. 152; Henisz et al. 2005, p. 876), world-polity models circulate easily among states in the international system. Of course, it is important to emphasize that density is calculated for binary networks, so that information on the strength of ties is reduced to a binary indication of the presence/absence of at least one tie.

Turning from ties among states to ties among IGOs, we find a trend in density that is almost the mirror image of the trend in the density of inter-state ties: IGOs are very densely interconnected through their member states at first, but this density slowly declines through 1940, then declines more rapidly through 1990, when it appears to level off at just over 50% of possible inter-IGO ties observed. While this remains a fairly dense network in a static sense, the pattern of change is more consistent with global neo-realism than world polity theory. The decreasing density of the IGO network suggests a more fragmented world polity, with fewer connections among organizations. This means that the pattern of IGO ties contrasts starkly against the number of IGO ties: While states are growing more even in the number of IGOs they belong to, they increasingly belong to different IGOs. In contrast to a world of UNs, WTOs, ILOs and World Banks, the decreasing density of the IGO network results from a world of EUs, NAFTA, Mercosurs, and ASEANs.

Figure 5 shows the trends in centralization, a measure of structural inequality that assesses how closely a network corresponds to a star-shaped structure with one central node and many peripheral nodes. Again, we find opposite trends for the inter-IGO and inter-state networks. Centralization of the inter-state network drops sharply from 1840 to a low level in 1910, and decreases even further through 2000. In 2000, the centralization of the inter-state network fell to .07, very close to the perfect structural equality of a circle-shaped network where
all nodes are interconnected. Decreasing centralization of the inter-state network is consistent with the institutionalist image of the world polity as an increasingly even field of association.

FIGURE 5 ABOUT HERE.

In contrast, the centralization of the IGO network increases throughout the period. The IGO network exhibits no structural inequality until 1880, but the level of centralization then increases slowly through 1940, when the network is 16% as centralized as possible given its size. Centralization then rises more steeply through 1970, and ultimately levels off near 48%. This suggests that the IGO network is increasingly star-shaped, with central IGOs that share many member states in common with each other, and peripheral IGOs that share member states in common with central IGOs but not with other peripheral IGOs. This increasing centralization of the IGO network is more consistent with the neo-realist image of a world polity structured by international competition and conflict.

Centralization, like density, applies only to binary networks, which waste information on the strength of ties (or diameter of the pipes) connecting IGOs and states. Centralization also has limited utility for measuring structural inequality in these networks, because centralization assesses the resemblance of a network to an ideal-typical network with only one central node. Borgatti and Everett (1999, p. 376) generalize this restricted sense of centralization and define a core/periphery structure as one where “the network … consists of just one group to which all actors belong to a greater or lesser extent,” where a “center and periphery” can be defined. That is, core/periphery networks can be characterized as having a multi-centric core of nodes that are
tightly interconnected, with a surrounding periphery of less-interconnected nodes.\textsuperscript{14} The overall level of structural inequality in a core/periphery network can then be measured as inequality in the closeness of the nodes to the core. Figure 6 shows trends in the Gini coefficient, a common measure of inequality, calculated for the binary and valued inter-state networks.

Figure 6 confirms that the binary network understates the level of structural inequality: From 1860 forward, the Gini coefficient is always lower for the binary network than for the valued network. For instance, in 2000, the Gini coefficient for coreness scores in the valued network is .144, while in the binary network, it is .001. Nevertheless, the trends are similar: In both networks, structural inequality declines steeply after 1960, to a very low level by 2000. For comparison, the level of inequality in world income has been estimated at a Gini coefficient of .543 (Firebaugh 1999, p. 1613). The level and trend are consistent with world polity theory: All states are nearly equal in position within the world polity.

Figure 7 shows the trends in this measure of structural inequality, for the binary and valued networks of IGOs. Again, the IGO dimension appears to be at odds with the state dimension: In both the binary and valued IGO networks, structural inequality trends upward after 1870, with notable growth in the rate of increase in the 1940-1970 period. The level of inequality is, predictably, higher in the valued network (Gini = .578 in 2000) than in the binary network (Gini = .197 in 2000). For the IGO network, the level and trend are consistent with the global neo-realist approach: Central IGOs like the UN and WTO are much closer to the

\textsuperscript{14} Correlations between the observed valued networks and idealized core-periphery structures (Borgatti and Everett 1999) are substantial. For all years of observation, the correlation coefficients for the valued networks surpass .80.
structural core of the world polity than peripheral IGOs like the Baltic Council and the Central Asian Economic Community.

Does the regionalization of the world polity drive this structural inequality? Figure 8 shows trends in the correlation between the observed inter-state networks and a model regional network (where states share IGO ties only to other states in their geographic region, as defined above).  For the binary network, regionalization increases until 1870, decreases until 1950, and stabilizes at a very low level through 2000 ($\rho = .009$). For the valued network, the trend is rather different: Regionalization increases sharply and peaks in 1930, decreases dramatically after 1940 due to the founding of the UN, and increases again after 1960, to a correlation of .365 in 2000. The pre-war peak of regionalization contradicts the argument that universal IGOs dominated the field in the first half of the 20th century, and fostered regional organizations only after the war (Boli and Thomas 1999, p. 31). The overall pattern of findings, especially the contrast between the results for the binary vs. valued networks, suggests that sharing geographic region may not predict the presence or absence of ties among states, but it does predict stronger ties among states. States do have some connections that span regional boundaries, but connections among states are strengthened within regions. More important than the static patterning of inter-state

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15 To assess the sensitivity of these results to the UN’s definition of region, I re-estimated the correlations using the alternative, more culturally-oriented scheme of Huntington (1996), as operationalized by Henderson and Tucker (2001). The nine “civilizations” identified by Huntington correspond fairly closely to a strictly geographical grouping, except that some North African and Middle Eastern countries are classified as Islamic, North American countries are classified with Western European states as Western, and the Asian countries are divided among the Buddhist, Japanese, and Sinic civilizations. Using this alternative, semi-regional classification, the results are consistent with those shown: the association between region and IGO ties increases through 1900, decreases through 1920, increases through 1940, falls off sharply through 1970, then increases again (to the level of .325). Details are available from the author.
ties is the direction of change: The regionalization of the world polity has actually increased since 1960, and world polity ties have become more rather than less bound to place. This is consistent with Nierop’s (1989) finding that the regional clustering of states grew during the post-war period, through 1980. Still, the relatively small correlation of .365 suggests that region exerts weak effects on IGO ties.

Before turning to a more detailed examination of the contemporary structure of the world polity, I note two aspects of its long-term evolution in the context of some of the key historical changes in the geopolitics of the period. For nearly all the structural measures, stasis, or at least trend-less fluctuation, characterizes most of the period before the late 19th century. This relative lack of change in the IGO system may reflect the conclusion of the nationalization period of state formation (Tilly 1990, p. 185), when “national interests” surpassed dynastic ones within European states. The static structure of the world polity during this period of modern state formation reinforces the link between national sovereignty and the institutionalization of the world polity (Meyer et al. 1997), and accords with the identification of the late-19th and early-20th century as the crucial period of world polity formation (Boli and Thomas 1999). Clearly, the meanings of states and international organizations were altered over this long period.

But the truly transformative geopolitical moment that ripples through the structure of the world polity is the formation of the United Nations system following World War II. After 1945, the world polity bifurcates into a world of sparsely interconnected, centralized, structurally uneven, and increasingly regionalized IGOs, and densely interconnected, decentralized, and
structurally even states. The following two graphs illustrate these contrasts between the inter-IGO and inter-state networks, using data for the year 2000.

The generally place-less, even structure of the inter-state network is shown in Figure 9, which displays the valued inter-state network as a two-dimensional graph. Here, I use a spring-embedding algorithm implemented in the program NetDraw (Borgatti 2002) to position the nodes such that connected nodes are attracted and placed close together, while disconnected nodes are repelled and placed apart from each other. The spring embedder finds an arrangement of nodes that minimizes the attraction and repulsion “energy” of the network as a system (see Moody [2001] for an application). I use symbols to denote the region where each state is located: Circles for the Americas, squares for Africa, triangles pointed upward for Europe, diamonds for Asia, and triangles pointed downward for Oceania.¹⁶

FIGURE 9 ABOUT HERE.

The network exhibits a notably even and decentralized structure. The ties (grey lines) are so dense that they cannot be distinguished, as every state is tied to nearly every other state through their common IGO memberships. One exception is Taiwan, located on the right-hand side, or “eastern” edge, of the graph: It is positioned marginally more distant from the other nodes, due to its classification by some IGOs as part of China. Generally, though, the network is densely integrated and decentralized. Moreover, states are tied together without respect to region: In line with the relatively low correlation (.365) between the model regional network and the observed inter-state network in 2000, states from every region appear throughout the graph. For instance, states as diverse as Brunei, Latvia, and Congo (Brazzaville) appear essentially

¹⁶ The regions Northern America and Latin America are combined in the graphs.
equidistant from Taiwan in the graph. This is the densely interconnected world envisioned by world polity theory.

Figure 10 shows a graph of the inter-IGO network, drawn using the same spring embedding algorithm. As above, I use symbols to denote geographic region: “+” for non-regional IGOs, circles for American IGOs, squares for African IGOs, triangles pointed upward for European IGOs, diamonds for Asian IGOs, and triangles pointed downward for Oceanic IGOs. For ease of presentation, the names of the IGOs are suppressed; a graph showing these names is available from the author upon request.

FIGURE 10 ABOUT HERE.

In contrast to the inter-state graph, the inter-IGO graph exhibits clear regionalization. The non-regional IGOs are located in the center of the graph, with African IGOs to the southwest, European IGOs to the north, and American and Oceanic IGOs to the southeast. At first glance, the Asian IGOs appear to be spread throughout the graph, including west of center, but upon closer inspection, the IGOs to the west of center are dominated by Arab and Gulf states (e.g., the Gulf Cooperation Council, Council of Ministers of Health of Arab Gulf States, Arab Maghreb Union, and Islamic Development Bank). The gray areas that surround the center and insulate each regional cluster represent greater distance among IGOs. There is substantial distance between the center and each of the three regional clusters, and between the regional

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17 There are several structurally peripheral IGOs. Appended to the north of the graph, the three upward triangles represent the Baltic Battalion, Baltic Council, and Baltic Environmental Forum. Appended to the northeast of the graph, the two diamonds represent the International Fund for Saving the Aral Sea and the Central Asian Economic Community. Appended to the southeast, the two outermost downward triangles represent the Organization of Eastern Caribbean States, and the Eastern Caribbean Central Bank. Appended to the west, the outermost diamond represents the Arab Gulf Program for United Nations Development Organizations.
clusters themselves, which verifies the results from the density and core/periphery analyses above. This regionalization could be a function of demands for regulation and institutionalization created by international trade, given that trade relations are especially dense within regions (Fligstein and Merand 2002; Fligstein and Stone Sweet 2002).

The central, non-regional IGOs include highly-visible, prominent organizations such as the United Nations, WTO, UNESCO, Interpol, World Bank, and IMF. Their visibility and influence accord with their central position within the IGO network. Interestingly, another prominent IGO, the Organization for Economic Cooperation and Development (OECD), occupies a strategic brokerage position (Burt 1992, 2004) between the center, the European cluster, and the American cluster (to the northeast of the center of the graph). Following Burt (1992, 2004), this suggests that the OECD may bridge the structural holes that separate these regions, and thus more effectively diffuse policy scripts among them. While the influence of the OECD’s structural position on its ability to diffuse policy scripts is of course somewhat speculative, this speculation provides an example of the kind of hypotheses that can be generated and tested by conceptualizing and observing the world polity as a network. Viewing the world polity as a network also generates specific hypotheses concerning how the institutional environment created by international organizations shapes other organizations, such as transnational social movement organizations (Smith 2005; Smith and Wiest 2005).

DISCUSSION

This paper examines the evolution of the social structure of the world polity, and finds that while states have become densely interconnected through common memberships in intergovernmental organizations (IGOs), the field of IGOs has become less densely interconnected, more
centralized, and more uneven in its structure. This seemingly contradictory set of findings results from a crucial but subtle distinction between the types of ties that bind the world polity. On the one hand, global and inclusive organizations such as the United Nations create common ties among (almost) all states; these universalistic organizations are ideal-typical for world polity theory. On the other hand, regional and exclusive organizations such as the European Union and Association of Southeast Asian Nations create common ties among only some states; these particularistic organizations are divided by their non-overlapping membership. The simultaneous growth of global, inclusive ties and regional, exclusive ties has produced a world polity where states are increasingly interconnected through common membership in global organizations, but the field of international organizations is increasingly fragmented. States are coming together. Organizations are coming apart.

This disintegration is at odds with the structural implications of world polity theory (Boli and Thomas 1997; Meyer et al. 1997), but it is consistent with the global neo-realist approach to the world polity. World polity theory imagines a world where global organizations such as the United Nations create increasingly dense connections among international organizations through shared member states, and among states through common memberships in international organizations. The image of the social structure created by these connections is “a rapidly growing web of global links that envelop the world without regard for local topography and conditions” (Boli et al. 1999, p. 77). This web is an increasingly even, dense field of association. Conversely, the global neo-realist approach imagines a world where international organizations are created by states in pursuit of their material and symbolic interests (Boswell and Chase-Dunn 2000; Jacobson 1979; Jacobson et al. 1986; Waltz 1979). The image of the social structure created by this conflict-driven process is an uneven, fragmented field of association.
That the social structure of the world polity has evolved toward sparseness and centralization is especially intriguing because it contrasts with the finding that the international trade network grew increasingly dense and de-centralized between 1959 and 1996 (Kim and Shin 2002). This contrast suggests that political globalization and economic globalization may not necessarily be reinforcing processes (cf. Boswell and Chase-Dunn 2000), and it supports Guillén’s (2001a, p. 255) call for more research on the relations among the various dimensions of globalization. Ultimately, the potential correspondence between political globalization and economic globalization is an open empirical question. It is merely suggestive that the global structures of the world polity and international trade have evolved somewhat differently in the postwar period, except that both suggest evidence of substantial regionalization.

Placing these findings in the broader context of the globalization literature, the social structure of the world polity also carries implications for several key debates within the growing literature on globalization. First, there is debate over the very existence of globalization, with Held et al. (1999), Ohmae (1990), and Reich (1991) arguing for extensive or transformative globalization, while Hirst and Thompson (1996), Wade (1996), and Fligstein and Merand (2002) arguing that “globalization” is better characterized as a process of internationalization or even Europeanization, given its geographical unevenness. This paper contributes to this debate, most of which remains centered on the economic dimension, with evidence that political ties among states and international organizations have become less dense overall, and are substantially structured by geography.

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18 Kim and Shin (2002) also find increased regionalization of trade, which they interpret as evidence of the symbiosis of globalization and regionalization.

19 Given space constraints, I recapitulate only some of the key details, but I refer the reader to the excellent reviews of these and other debates by Guillén (2001a) and Ó Riain (2000).
Second, there is controversy over whether globalization causes increasing isomorphism among states, with many arguing for the maintenance of international difference in the face of global institutional pressures (Campbell 2004; Garrett 1998; Guillén 2001b; Hall and Soskice 2001). The fragmented structure of the world polity suggests that these institutional pressures may be channeled through regional polities, which might produce local convergence and global divergence. Third, there is disagreement over whether globalization undermines the sovereignty of the nation-state. Albrow (1997), Evans (1997), and Waters (1995), for instance, note that international organizations and associated neoliberal economic policies favor multinational capital at the expense of the state, while others see globalization as creating demands for new forms of territoriality, sovereignty, and regulation that may reinforce the state (Boswell and Chase-Dunn 2000; Ó Riain 2001; Sassen 1996). Evidence of growing regionalization in the world polity supports the latter perspective, as it may be that states assert and transform sovereignty through the construction of regional polities such as the European Union.

The findings presented in this paper address the social structure of the world polity, and although they have implications for the content of world culture, they do not speak directly to that content. A potentially fruitful direction for future research would be to examine the content of global scripts in context of the structure of the world polity, given the implications of social structures for ideational structures (Friedkin 1993, 2001; Martin 2002; Moody 2004). For instance, if policy scripts are generated in international organizations, it is reasonable to expect less variation in scripts within clusters of densely-interconnected IGOs than between these clusters. The network analysis reported above suggests a strategic comparison of the OECD’s policy scripts with those of the American, European, and global organizations that it bridges. The analysis also highlights IGOs in the Middle Eastern region as especially distant from the
center of the world polity, making these organizations another especially interesting area for the exploration of script content. Information on the social structure of the world polity could be combined with data on the content of specific scripts to explore the relationship between the timing of network formation and diffusion (Moody 2002). Conversely, it could be that world scripts are reinforced, or at a minimum translated, through densely interconnected regional organizations. Empirical work on these questions would make a significant contribution.

A further limitation of the scope of this paper is that international nongovernmental organizations (INGOs) are not examined. As noted above, IGOs were selected because previous work finds that inequality among states in the number of IGO memberships declined more rapidly, and to a much lower level, than inequality in the number of INGO memberships (Beckfield 2003). In addition to comparing the structure of the IGO network to the INGO network, future work should also examine the effects of network position. Indeed, research along these lines is already beginning to appear (Hafner-Burton and Montgomery, forthcoming; Ingram et al., forthcoming). Position within the world polity might be re-conceptualized as position within multiple networks, and blockmodeling (White, Boorman and Breiger 1976) could be employed to identify the possibly distinct roles that states play within the world polity.

How can the social structure of the world polity be reconciled with the substantial body of research showing that embeddedness in the world polity correlates with the adoption of common policies and practices across a wide range of domains? Restated, how are convergent policy scripts generated and diffused by fragmented international organizations? One possibility is that accounting for the social structure of the world polity in institutionalist models of policy diffusion may reveal that the associations between world-polity embeddedness and policy adoption have actually been understated. Ties to global organizations like the UN may have
stronger effects than ties to other organizations, which would mean that including all international organizations in a measure of world polity embeddedness would bias the association between embeddedness and policy adoption downward. This conjecture could be assessed by disaggregating the common measures of world polity embeddedness.

A second possibility is that the content of world culture is increasingly independent from the structure of the world polity: Models meant to apply everywhere in the world may float freely, detached from their organizational origins (Strang and Meyer 1993). In this second scenario, it matters less that states are embedded in networks of international organizations, and more that these international organizations suggest the presence of a global level of social reality (Boli and Thomas 1997). The effects of such a strong but diffuse world culture may be more challenging to demonstrate. A third possibility is that memberships in international organizations and the adoption of largely progressive policies in the domains examined by world-polity research may be driven by an omitted, difficult-to-measure factor, such as national or regional ideology. Research on this possibility could incorporate insights on the interaction of international norms with national contexts (Fourcade-Gourinchas and Babb 2002). Such work would advance the critical debate over whether globalization produces a distinctly global culture, or reproduces existing differences (Guillén 2001a). If the culture of the world polity reflects its social structure, this study of the evolution of the social structure of the world polity since 1820 suggests substantial and growing difference, centralization, and fragmentation.

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20 This distinction between specific agents and organizations that generate and enforce norms, compared to more diffuse cognitive mechanisms of isomorphism, appears in the more general debate between “old” and “new” institutionalisms (Hirsch 1997; Scott 1995; Stinchcombe 1997).
REFERENCES


Figure 1. An Illustrative Extract from the Bimodal Network of IGOs and States

Panel A: Graph (circles indicate IGOs; squares indicate states)

Panel B: Bimodal data matrix

29 States (full labels not shown):
A A B C D E F G H I I I J I I I L I M N N N P P S S S S T U

3 IGOs:
EU   0 1 1 0 0 1 1 1 1 0 0 1 1 0 1 0 1 0 0 0 1 0 1 1 0 1 0
NAFTA  0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
OECD  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Panel C: Unimodal IGO matrix

EU  NAFTA  OECD
EU   15   0   15
NAFTA  0   3   3
OECD  15   3   29
Figure 2. Intergovernmental Organizations (IGOs) and States in the World Polity
Figure 3. Standard Deviation, Mean, and Coefficient of Variation in IGO Memberships
Figure 4. Density of the Bimodal, IGO, and Interstate Networks
Figure 5. Centralization in the IGO and Interstate Networks
Figure 6. Inequality in Coreness of States
Figure 7. Inequality in Coreness of IGOs

![Inequality in Coreness of IGOs](image-url)
Figure 8. Correlations between Observed Interstate Networks and Regional Model Networks
Figure 9. The Network of States Formed by Common IGO Memberships

Notes: Positions based on spring embedding algorithm (see text for details). Symbols denote geographic region.

● = Americas
■ = Africa
▲ = Europe
♦ = Asia
▼ = Oceania
Figure 10. The Network of IGOs Formed by Shared Member States

*Notes:* Positions based on spring embedding algorithm (see text for details). Symbols denote geographic region.

+ = Non-regional
● = Americas
■ = Africa
▲ = Europe
♦ = Asia
▼ = Oceania