



Meaning structures in the world polity: A semantic network analysis of human rights terminology in the world's peace agreements[☆]

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ABSTRACT

We examine changes in the use of human rights language in peace agreement texts from 1990 to 2018. Existing research in world polity theory examines institutional change through the lens of increasing isomorphism, a lens that generally fails to appreciate qualitative transformations in the meaning of institutional concepts across time. As a corrective to this approach, we endorse a meaning-structure institutionalism that conceives institutional concepts in relational terms and use a method of textual analysis — semantic network analysis — to analyze and formally model the shifting meaning of human rights in peace agreement texts. We show that human rights language in peace agreements has undergone multiple qualitative shifts since its initial emergence in the mid-1980s. Specifically, the term human rights occupies a marginal position in peace agreement texts in the 1990s, is used in reference to and thus bridges multiple substantive themes in the 2000s, and, finally, inhabits a conceptual silo in the 2010s in the sense that it is associated with many concepts within but no concepts outside of a semantic community related to rights and democracy. We discuss implications for world polity theories of institutionalism that follow from our relational framework.

1. Introduction

Concluding violent hostilities with a formal agreement is a practice with ancient origins. Since what is commonly identified as the world's first peace agreement, the Qadesh Peace Treaty, ended hostilities between the Hittites and the Egyptians in 1269 BCE., formal agreements have become important symbols for the cessation of conflicts (Bederman, 2001; Bryce, 2006; Fazal, 2013). Although peace agreements have always been characterized by highly ceremonial behaviors (Fazal, 2013), the form of this ceremony has shifted significantly over time. Up until the contemporary era, successful agreements to cease combat were marked by many diverse practices, including erection of physical monuments (Thucydides, 1954; Ziegler, 2004) and gestures such as sealing the peace with a kiss

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(Vollrath, 2004). Contemporary conflicts, especially internal conflicts, tend to conclude with written agreements between warring parties (Fazal, 2013, 2018; Sarkees & Wayman, 2010). This change resonates with the widespread tendency of states and international organizations to document the conduct of officials and other institutional agents in highly rationalized but still ceremonial efforts to observe the moral, mythic principle of accountability (Meyer & Rowan, 1977). If surrenders and bilateral ceasefires represent distinctive forms of social drama (Wagner-Pacifici, 2005; Wagner-Pacifici & Hall, 2012), then the institutional history of peacemaking supplies a collection of scripts for contemporary actors to reference, enact, modify, or replicate for their own purposes.

Modern-day peace agreements are not merely contracts between isolated actors. Rather, they are staging events where parties rehabilitate their potentially stained reputations (Goffman, 1959; Rivera, 2008) by ceremonially expressing renewed commitment to the international legal order for audiences of state and international actors (Fazal, 2013, 2018; Stanton, 2016). One important aspect of this performance in recent decades is that participants in the peacemaking process convey their intentions to conform to normative frameworks regarding respect for human rights. As institutionalist sociologists show, the “global human rights regime”—that is, the various laws, conventions, and norms that shape legitimate use of force across the world—has become increasingly wedded to the actual language of official state documents such as national constitutions (Beck, Drori & Meyer, 2012; Ron, 1997). Language associated with the human rights regime has likewise become commonplace in peace agreements, as indicated in Fig. 1. On the left-hand side of Fig. 1, a time series plot indicates the number of times the term *human rights* appears within peace agreements per year and shows a notable increase of mentions in the 1990s.¹ Meanwhile, a time series plot on the right-hand side depicts the appearance of *human rights* relative to the total number of words in peace agreements in a given year. This graph suggests that, following its initial emergence in the mid-1980s and especially since the increase in popularity it experienced in the early 1990s, *human rights* has enjoyed a more or less steady presence in peace agreements; it appears 9.35 times per 10,000 words since 1990.

The implication that nation-states regularly recognize human rights in peace agreements is consistent with world polity theory (henceforth, WPT), advocates for which anticipate the entrenchment of “universal principles of justice and morality” among nation-states (Meyer & Jepperson, 2000:105). Yet other scholars see concerning changes in how the language of human rights is deployed within peace agreement documents, in ways that conflict with this reading. Of central importance for Bell (2017:375) is that human rights-related language is “a mechanism of reframing disputes over the nature of the state into a set of practical projects of reform in which the nature of the state and its capacity for inclusion can continue to be contested.” Bell argues that it has become more difficult in recent years to identify aspects of peace agreements that are constitutive of human rights language. Peace agreements in the 2010s, in particular, are marked by a newfound pessimism about the potential for broadly conceived global human rights law to address abuses. We seek to resolve the seeming discrepancy between the mostly persistent numeric presence of *human rights* in peace agreements, as represented in the right-hand graph in Fig. 1, with Bell’s interpretation of its decline.

WPT investigates the emergence and institutionalization of concepts over time by theoretically linking them to networks of relations among states, treaties, and organizations (Beck et al., 2012; Meyer, 2010, Meyer, Boli, Thomas and Ramirez, 1997). However, WPT usually does not scrutinize the meaning of those concepts within the texts (such as constitutions and treaties) that elaborate them. For example, WPT accounts sometimes rely upon methodologies insensitive to changes in words’ meanings. To the extent that WPT analyses capture institutional change by calculating the frequency with which words appear in textual documents (e.g., Beck et al., 2012), the WPT institutional tradition implicitly treats the meaning of concepts such as human rights as self-evident and static. Although simple quantitative counts of a term in texts efficiently indicate the relative attention given to that term across time, these measures do not clearly capture or express qualitative changes in a term’s meaning.

A useful corrective to this approach, John Mohr’s (1998) *meaning-structure institutionalism* offers a vision of institutional life organized within and around “cultural networks,” that is, “relational structures that link meanings, values, stories and rhetorics together into various structured configurations” (Mohr & White, 2008:489; see also Breiger & Mohr, 2004; Mohr & Duquenne, 1997). Rather than treat human rights as a cultural template that has an internally stable meaning, a meaning-structure institutionalism enables human rights to be conceived as an *instituted process* (Somers, 1993), such that the meaning of the term *human rights* emerges only within the context of how it is mobilized alongside other concepts within an unfurling history of peace agreements. Methodologically, a meaning-structure institutionalism reorients focus from counts of relevant terms/concepts to the configurations of relations in which terms/concepts are embedded. Showing how *human rights* is articulated in reference to other concepts (e.g., *rule of law*, *violence*, or *citizenship*), a relational analysis enables measurement of the relative breadth of the meaning of *human rights* and how robustly it is integrated with other institutional concepts. Meaning-structure institutionalism thus complements conceptualizations of rights as political and social fabrications whose “causal powers to constitute personhood and identity” (Somers & Roberts, 2008:407) are anchored in “patterned matri[ces] of institutional relationships among cultural, economic, social, and political practices” (Somers, 1993:595).

Qualitative transformations in the meaning of human rights in peace agreements have practical importance because they indicate changes to the cultural-legal frameworks that institutional actors use to decide what protections and entitlements state actors are obligated to provide, which persons are eligible for such protections and entitlements, and which parties bear the authority and responsibility to enforce the corresponding rules. To illustrate the changing relational context of *human rights* in peace agreements, we perform a semantic network analysis (Rule, Cointet & Bearman, 2015) of a corpus of peace agreement texts across three decades (1990–2018). The term *human rights* moves from occupying a marginal position in peace agreements in the 1990s to occupying a highly central, boundary-spanning position in the 2000s to, finally, inhabiting a conceptual silo in the 2010s in the sense that it is connected to

¹ We use italics (e.g., *human rights*) to indicate when we are referring to a term within the corpus or to a node in a semantic network.

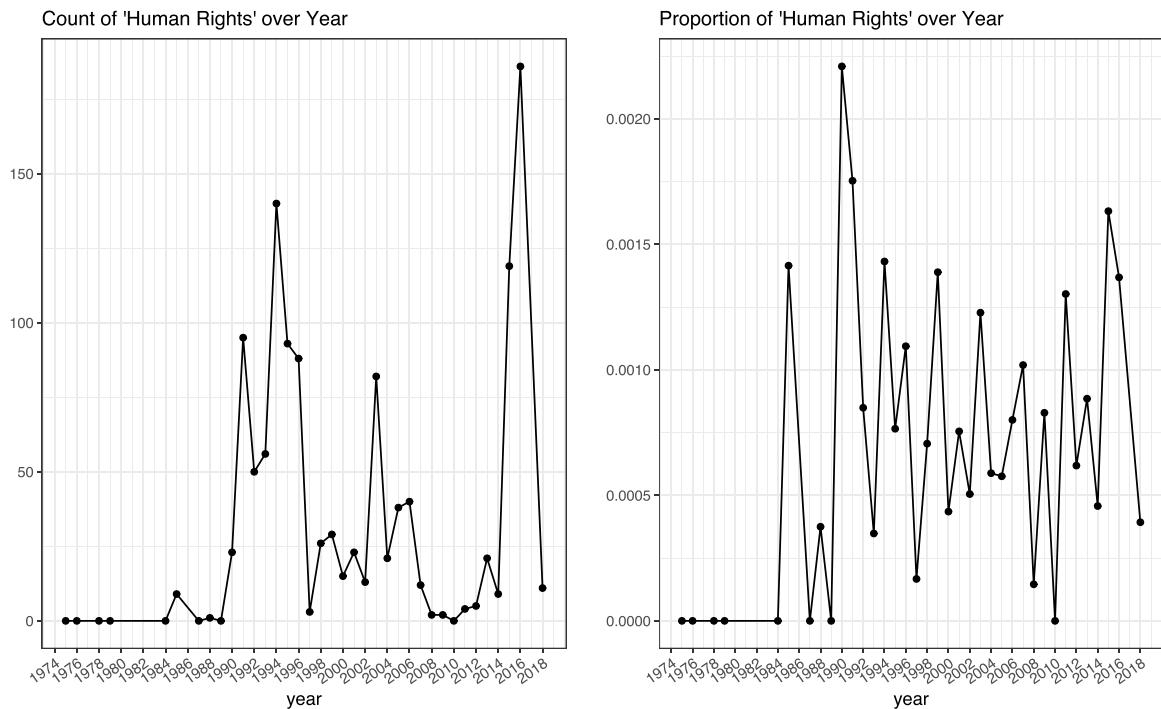


Fig. 1. Time series plots of appearances of *human rights* in peace agreements. Left-hand plot represents raw counts of the term *human rights* per year. Right-hand plot represents number of appearances of *human rights* relative to the total number of words in peace agreement texts per year.

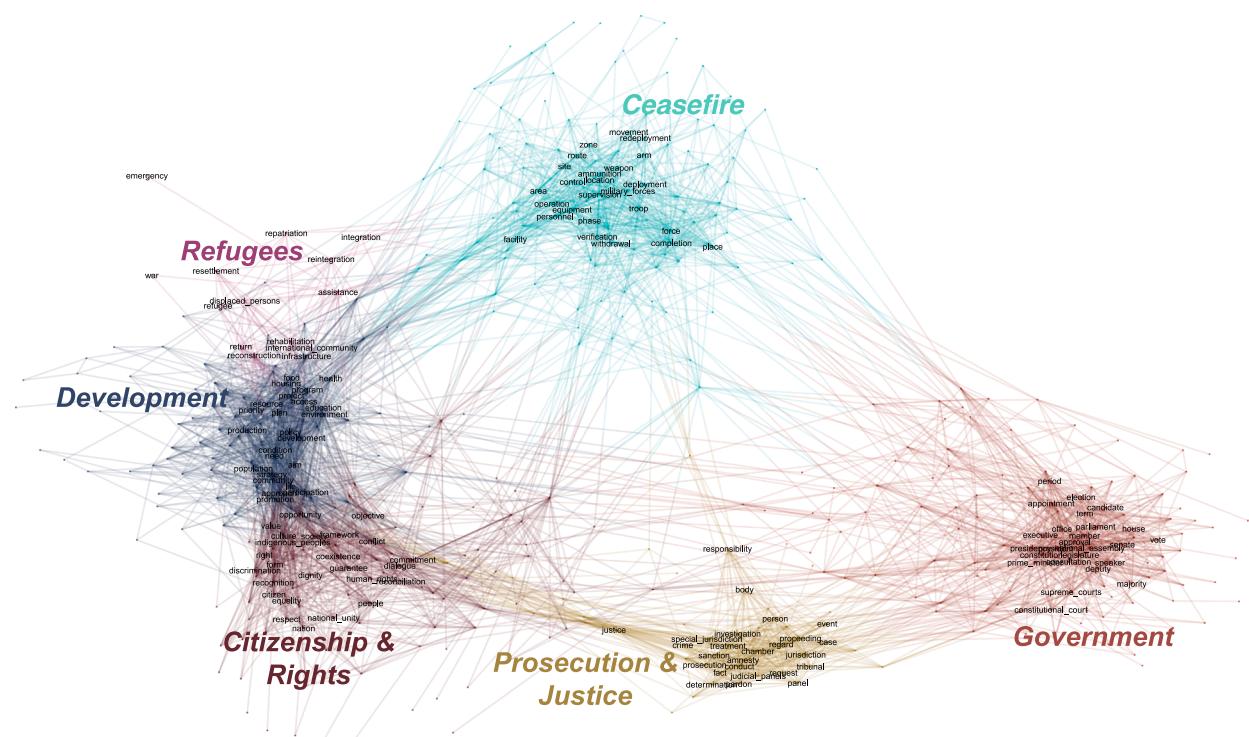


Fig. 2. Semantic network of entire corpus of peace agreements. Text over nodes indicates that a term is among the 25 most central terms in a semantic community's subgraph as measured by eigenvector centrality (“Refugees” community only contains 13 terms). Color of nodes and edges indicates community membership.

many concepts within but no concepts outside of a semantic community related to rights and democracy. Our results have implications for WPT conceptualizations of isomorphism: What is ostensibly a cultural template that has achieved isomorphic status within the world-society nonetheless exhibits meaningful variation across time in terms of the concepts to which it connects and the structural position it occupies within peace agreement texts. A relational approach, we argue, may radically reorient WPT analyses by highlighting semiotic diversity and qualitative change where WPT stresses uniformity and continuity in meaning.

2. World polity theory

Since its reemergence in the 1970s, institutional theory in sociology has embraced relational conceptualizations and metaphors. Meyer & Rowan (1977), for instance, connect the number and importance of rational myths in organizational life to increasingly dense and interconnected “relational networks” among organizations. DiMaggio & Powell (1983) argue that organizations, professional groups, and the state contributed to the development of organizational fields, defined by actors’ mutual awareness of how their action is likely to be interpreted by others. They further describe how pressures toward isomorphism result from organizational actors’ sense that they should pursue practices appropriate to the positions they occupy relative to other organizations. The analytic benefit to DiMaggio and Powell’s approach lies in the intuition that, as a field matures, there develops a fundamental connection between position — that is, the location an actor occupies in reference to the set of field relations that comprise the larger organizational environment — and the resources and strategies the actor uses (Martin, 2003).

WPT extends these insights to the study of nation-states. Specifically, WPT highlights integration into a larger network of nation-states as an important factor for explaining why nation-states adopt specific “templates,” “scripts,” or “models.” WPT holds that the postwar world has seen the emergence of organizational and professional groups that promote “such universal or highly collective goods as world peace, the environment, human rights, or models of economic growth” (Meyer, 2010:6). Cultural models for understanding and practicing human rights become pervasive as nation-states reach a consensus about the value of human rights and routinely organize their practices in accordance with this consensus (Meyer et al., 1997). States draw upon standardized models to create laws, policies, and programs in ways that depend upon how deeply they are integrated into the network of states, organizations, and civil society groups that comprise the “world society” (Boli & Thomas, 1997). In support of this argument, WPT consistently offers empirical evidence that nation-state behavior is converging over time (Meyer, 2010). In this tradition, research exploring the institutionalization of human rights has analyzed how human rights language becomes integrated into national constitutions worldwide. Beck et al. (2012) find that human rights language was almost entirely absent in most national constitutions prior to 1948’s Geneva Convention but appears in most today. The institutionalization of human rights language within national constitutions was driven by global isomorphic processes, the increasing prevalence of human rights agreements, and the founding of new states during the global human rights regime’s period of expansion.

A central goal of WPT is to explain increasing cultural homogeneity among nation-state practices. Its focus on isomorphic processes, however, has many critics, who note that WPT has difficulties explaining empirically observable variation in what are supposed to be uniform cultural practices (Kentikelenis & Babb, 2019; Kentikelenis & Seabrooke, 2017; Schwartzman, 2004; Wimmer & Feinstein, 2016). Given variation in how concepts are articulated and practiced, there is an arbitrariness with which world polity theorists designate one cultural model rather than another as the “dominant” version. When proponents of WPT concede that there exist “a good many variants” of “dominant models” (Meyer et al., 1997:154), such an assertion still entails that some version rather than others best exemplifies the concept and thereby enshrines that version as the reference point for comparisons across time and space. This concern is related to criticisms that decoupling, used to explain practices being disassociated from commitments in an organizational field (Hallett, 2010; Meyer & Rowan, 1977), operates as a theoretical safety hatch to dismiss variation in putatively isomorphic phenomena as unimportant (Downey, Lawrence, Pyles & Lee, 2020). Assumptions that variation in the meaning of concepts is unimportant sometimes shape world polity theorists’ strategies of measurement as well — for example, when they illustrate increasing isomorphism in ways that stress quantitative change (e.g., growing prevalence of human rights language in texts) rather than qualitative change (e.g., growing similarities in how human rights language is meaningfully deployed within texts).

3. Theorizing institutions relationally

Despite its commitment to understanding nation-states’ adoption of cultural models in relational terms, WPT for the most part refrains from extending this same relationality to the cultural phenomena it studies. Although world polity theorists clearly regard institutional concepts such as human rights as historically contingent phenomena constituted through discourse, the methods they use still implicitly assume stability and continuity in terms of concepts’ meaning (Beck et al., 2012). A relational approach, in contrast, involves a “definitional shift … from thinking about a concept as a singular categorical expression to regarding concepts as embedded in complex relational networks” (Somers, 1995:136). From this perspective,

“concepts cannot be defined on their own as single ontological entities; rather, the meaning of one concept can be deciphered only in terms of its ‘place’ in relation to the other concepts in its web. What appear to be autonomous categories defined by their attributes are reconceived more accurately as historically shifting sets of relationships that are contingently stabilized” (Somers, 1995:136).

A relational approach therefore rejects the self-evident meanings of institutional concepts in favor of conceiving their meanings in dynamic terms as “observable processes-in-relations” (White, 1997:60).

On this basis, we propose reconceiving human rights in relational terms as an instituted process (Somers, 1993), or a set of social

practices the meanings of which actors perpetually negotiate in relation to a larger network of actors, practices, and institutions. *Human rights* acquires meanings in relation to how state, international non-governmental organization (INGO), and civil-society actors use it in conjunction with other concepts: Should we restrict its meaning so that it refers only to the prevention of violence, or should it be invoked in discussions concerning justice and restitution, too? Should human rights be extended to protect specific parties or groups of interest, such as children, women, or the elderly — and, if so, which ones? How relevant is human rights to efforts to reconcile victims and aggressors and thereby reestablish a sense of national unity? Does human rights exclusively pertain to steps taken to mitigate violence or does it also pertain to sets of political, cultural, and/or economic entitlements? In short, the meaning of human rights — the range of actions the term *human rights* meaningfully references, the other concepts and values that are co-implicated, the specific agents to whom human rights are extended, the agents recognized as legitimately claiming jurisdiction over human rights — is elaborated within peace agreements in distinctive ways across space and time.

Understanding the meaning of a concept within a text thus demands attention to the larger “*meaning structure*” (Mohr, 1998) in which the concept is embedded. In recent decades, relational theorists have argued that the insight that cultural meanings are inherently relational is complemented by the program of network analysis, which takes relations as units of analysis (Emirbayer, 1997; Kirchner & Mohr, 2010; Mische, 2011; Mohr, 1998; Pachucki & Breiger, 2010). A recent explosion of work in cultural sociology investigates how cultural phenomena such as ideas, beliefs, or concepts are structurally organized vis-a-vis one another. This includes numerous studies that endorse a computational or network-analytic approach to the study of texts (Basov, Breiger & Hellsten, 2020; Hoffman, Cointet, Brandt, Key & Bearman, 2018; Kinney, Davis & Zhang, 2018; Rule et al., 2015). Such studies translate the co-appearance of specific terms within defined blocks of texts (e.g., paragraphs) into term-by-term matrices, which depict terms’ coincidence as sets of relations. Beyond its analytical congruence with the relational perspective, network analysis enables the use of existing metrics that, once we have reimaged their relevance to textual analysis, can aid in interpreting the changing meaning of institutional concepts across time.

4. Data

We use documents from the Uppsala Conflict Data Program (UCDP) Peace Agreement Dataset (Harbom, Högladh & Wallensteen, 2006; Pettersson, Högladh & Öberg, 2019). This dataset includes information on 355 peace agreement texts covering interstate and internal (civil) conflicts from 1975 to 2018. Our dataset includes PDF documents of 323 such texts.² Missing documents were excluded from the dataset due to broken links or inaccessibility in the English language.³ Each document was run through optical-character recognition using Adobe Acrobat Pro and saved as a plain-text file. These files were cleaned to fix errors introduced via the OCR procedure and to ensure that the paragraph and subparagraph structure of the original PDFs was retained.⁴ Table 1 describes characteristics of the entire corpus as well as relevant subcomponents of the corpus, post-cleaning.

5. The global structure of the peace agreements corpus

We build upon an analytic strategy designed by Rule et al. (2015) to resolve issues with longitudinal analysis in existing textual-analytic methods. Situating their approach within a larger tradition of co-occurrence approaches, Rule et al. seek to efficiently identify interpretable units of meaning within corpuses of texts in a way that is sensitive to changes in meaning across time. For Rule et al. (2015:10,838), the network structure of co-occurrence represents an “abstraction of the changing context of use” that, first, is directly interpretable in the sense that analysts can infer the meaning of specific terms through their immediate associations with other terms and, second, facilitates comparison in the sense that analysts can observe differences in the relations between terms across distinctive time periods. A primary objective is to identify when terms share similar meanings through observation of cultural holes (Pachucki & Breiger, 2010) within the network structure; substantively distinctive terms will be disconnected in ways that are identifiable by using existing methods designed to detect communities in network data.

Like Rule et al. (2015), we base our analysis on the most frequently occurring noun terms within our corpus. These include nouns and multiword noun phrases, such as “human rights,” “national government,” “armed conflicts,” and “displaced persons.” In R, we first use a program called TreeTagger, designed to assign part of speech (e.g., noun versus verb) to each word in the corpus.⁵ We use regular expressions to identify noun phrases that correspond to sets of grammatical sequences. For example, the regular expression “(JJ)+(NN)+” extracts grammatical sequences in which at least one adjective precedes at least one noun. We condense multiterms containing identical stemmed versions (such as “government” and “governments”) such that they index to a single form. We also identify semantically coherent combinations of words and combine them. For instance, “prisoner of war,” “prisoners of war,” and “war prisoners” were treated as one multiword phrase. Finally, we create a vector representing the appearance of every noun and multiple-word noun term among the most frequently appearing 1,000 multiterms in each paragraph/subparagraph.⁶

² See Supplementary Appendix #1 for a complete list and description of the peace agreements we analyze. Information in this Appendix is taken from the UCDP dataset.

³ A related limitation of our study is that we sometimes rely upon unofficial translations of peace agreement texts provided in the UCDP dataset.

⁴ See Supplementary Appendix #2 for a description of how relations were derived from paragraphs and subparagraphs.

⁵ Note that this allows us to discriminate, for example, between instances in which *right* is used as an adjective versus instances in which *right* is used as a noun.

⁶ An example of this vector can be seen in the “multiterms” column in Supplementary Appendix #2.

Table 1
Descriptive statistics for corpus.

	Corpus	1990–2018	1990–1999	2000–2009	2010–2018
Total words	1,314,414	1,245,389	635,892	323,694	285,803
Documents	323	297	150	95	52
% containing <i>human rights</i>	0.43	0.46	0.47	0.46	0.46
Mean words	4069	4193	4239	3407	5496
Median words	1209	1273	1384	1360	1077.5
Standard deviation	10,473	10,809	8790	7121	18,869

We perform the relational analysis of multiterms based upon their joint appearance within defined units of text — in this instance, paragraphs and subparagraphs of peace agreements. This procedure takes place within the CorText program. First, CorText identifies the 500 multiterms that appear most frequently. CorText then uses the uploaded vector to calculate pairwise distributional similarity scores (Weeds & Weir, 2005) that measure the extent to which two terms i and j appear with any third term k , or the context, using the following formula:

$$s(i,j) = \frac{\sum_{k \neq i,j, I(i,k) > 0} \min(I(i,k), I(j,k))}{\sum_{k \neq i,j, I(i,k) > 0} I(i,k)},$$

where $I(i,k)$ represents the mutual information between terms i and k . This distributional similarity score does not capture co-occurrence but, sharing the logic underlying the network-analytic principle of structural equivalence (White, Boorman & Breiger, 1976), measures the extent to which terms i and j co-occur with other terms k in the corpus overall.

Next, the resulting weighted network is filtered to remove insignificant edges; this procedure reduces the network to its most significant features. CorText sparsifies the weighted network by instituting a threshold θ for edges to be included within a network graph, such that edges with value less than θ are not included, and subsequently removing network isolates. CorText employs a strategy from percolation theory to calculate an optimal θ threshold where, just after, the network is divided into unconnected subcomponents and, just before, nodes in the network are more widely connected to other nodes. Finally, we use the Louvain community detection algorithm, which exploits the principle of modularity to discover latent communities within networks (Blondel, Guillaume, Lambiotte & Lefebvre, 2008). Modularity refers to a scale value that measures the appearance of ties within theorized communities relative to the appearance of ties across these communities. A suite of algorithms, including the Louvain algorithm, seek to optimize this value by assigning nodes to communities such that as many ties as possible appear within and as few ties as possible appear across communities. This step identifies distinctive *semantic communities*, referring to clusters of terms that share high similarity scores.

Applied to the corpus as a whole, this network construction procedure offers a sparsified representation of the relationships among terms, with the objective of conserving only the most significant relationships and aiding the observation of distinctive semantic communities.⁷ Fig. 2 contains a network visualization of the resulting graph, consisting of 479 nodes total, for the whole corpus. To produce visualizations, CorText uses the Fruchterman–Reingold force-directed algorithm but adapts it so that every node is attracted toward the centroid of the semantic community to which it belongs. Nodes are colored according to semantic community membership. We label the six semantic communities in Fig. 2 based upon our substantive interpretation of the terms designated as members.

Our interpretation begins at the top and moves clockwise. First, we encounter nodes connected to a “Ceasefire” community whose terms concern the establishment and maintenance of a ceasefire. Down and to the right, we identify a “Government” community dedicated to allocating powers and functions across different branches and levels of government. To its left, we observe a “Prosecution & Justice” community whose terms concern punishment, amnesty, and victimhood in the context of armed conflict. On the left-hand side, we reach three somewhat closely associated communities. First, a “Citizenship & Rights” community contains terms associated with human rights, political rights, and cultural rights; vulnerable populations (including women, children, and indigenous populations); dialog between warring parties; and the maintenance of unity and/or peace post-conflict. Immediately above, a “Development” community refers to an agenda of national and economic improvement and social welfare. Finally, a “Refugees” community concerns the wellbeing and social reintegration of refugees and internally displaced persons. This network serves as a useful reference point for comparison with narrower timeframes, as it extracts the overall structure of the corpus.

6. Network concepts

To capture changes in the meaning of *human rights* within peace agreements, we use existing network-analytic tools and re-envision their relevance for textual analyses. Specifically, we draw upon two concepts previously developed by theorists working at the intersection of networks and culture — *elaborateness* (Yeung, 2005) and *cultural holes* (Pachucki & Breiger, 2010) — and discuss how they are relevant to the analysis of concepts within texts.

⁷ The objective of visually analyzing the text of peace agreements is also in line with multidisciplinary data analysis projects on the topic such as the PA-X Database (Bell and Badanjack 2019).

6.1. Elaborateness

Bernstein (1971) made an analytical distinction between two types of speech codes: elaborated codes and restricted codes. An elaborated code may evoke a diversity of potentially discrepant meanings. As such, it tends to be more abstract and flexible. In contrast, a restricted code is particularistic and narrow, offering a small set of possible meanings. Cultural sociologists have drawn upon Bernstein's distinction to define the elaborateness of a concept as "the extent to which it signifies other concepts" (Yeung, 2005:398). In Yeung's (2005) interpretation of Bernstein, a concept that is more thickly elaborated will exhibit a greater number of connections to other terms, while a concept that is only weakly elaborated will possess relatively few connections. Elaborateness thus lends itself to a straightforward operationalization using centrality measures that calculate the number of edges incident to a concept's node. Furthermore, by virtue of themselves being thickly elaborated, highly connected concepts may enrich the meaning of a concept more than concepts that are relatively isolated within the graph. Recognizing this, we may define the centrality of a node as a function of the centrality of all the nodes to which the node is connected. This is the logic underlying Bonacich's (1972) measure of *eigenvector centrality*. The principal eigenvector, obtained by performing singular value decomposition on a matrix of relations, produces a ranked ordering based not merely on each node's volume of connections but the volume of its neighbors' connections. This use of centrality to indicate the elaborateness of a concept resembles previous uses of centrality measures to capture the "overall importance" of concepts or themes within texts (Ghaziani & Baldassarri, 2011:188).

6.2. Cultural holes

Pachucki & Breiger (2010) developed the concept of the "cultural hole," as an analogue to Burt's "structural hole," to refer to patterned absences of relations within networks of cultural relationships.⁸ One way to exploit this insight is to use random walks to measure the "distance" between terms or concepts (Boutyline & Vaisey, 2017). In network analysis, *walks* refer to sequences of steps that indicate movement from one node to another connected node within a network (e.g., source node → node $i \rightarrow$ node $j \rightarrow$ ultimate node). Within networks, communities are characterized by dense thickets of network ties among community members and few ties across communities. Structural and cultural holes, as gaps in the patterns of network relations, indicate boundaries between communities. These holes place constraints on the mobility of walks. Movement can only occur between nodes connected by an edge. Where a node does not bridge a hole, this will result in its increased distance from the nodes on the other "side" of the hole. Meanwhile, concepts that span holes will require fewer steps to reach nodes located in other communities. For this reason, random walks — that is, random sequences of steps that simulate movement across nodes, such that each successive node is randomly selected from the nodes incident to the walk's current position — can be used to efficiently detect community boundaries within networks (Pons & Latapy, 2005). Drawing upon this same logic, we evaluate a node's capacity to span semantic boundaries by measuring where random walks that begin at the node finish within the network.⁹

We conceptualize a node's *community reach* in terms of the semantic communities in which a random walk beginning at that node will terminate. To measure community reach, we simulate 100,000 random walks beginning at the *human rights* node and calculate the proportion of walks that end in a given community.¹⁰ We also use the Simpson index, developed in the field of ecology, which measures the probability that two objects (i.e., walks) selected at random represent the same type (i.e., the semantic community in which the walk ends).¹¹ A high score on the Simpson index indicates that random walks beginning at *human rights* are disproportionately ending in a single community. A low score, in contrast, indicates that *human rights* is semantically near multiple semantic communities and operates as a conceptual bridge within the corpus or subcorpus.

7. Analysis of human rights: comparison across time

Bell (2017) argues that, since 1990, human rights language in the world's peace agreements has experienced three major shifts: (1) early institutionalization of human rights in peace agreement texts (1990–2000), (2) normalization of human rights language at the expense of a focus on local issues (2000–2010), and (3) the marginalization of broadly conceived global human rights law (2010–2017). The following sections investigate *human rights'* network positions across three decades: 1990–1999, 2000–2009, and 2010–2018 — a temporal distinction we use for its intuitiveness and because it corresponds closely to Bell's typology. In these

⁸ We depart from some previous approaches in operationalizing the cultural hole explicitly in network rather than topological terms. This distinction is important because, as other sociologists working at the intersection of culture and networks stress, operationalizations of distance that rely upon the graph-theoretical concept of walk or path lengths may differ radically from metrics that operationalize distance in terms of topological space (Boutyline and Vaisey 2017).

⁹ Theoretical support for this approach is provided by contemporary cognitive scientists who argue that path lengths fare better as measures of individuals' perceptions in semantic relatedness judgment tasks than distributional measures of distance (Kenett et al. 2017), though, to be clear, other researchers urge care in theorizing how network measures pertain to psychological/cultural networks and are skeptical of the conceptual utility of shortest paths in such networks (Bringmann et al. 2019).

¹⁰ To complete this task, we use the random walk function in R's "igraph" package, which treats edges as unweighted.

¹¹ Some readers may recognize that this also describes the Blau index in sociology and Herfindahl-Hirschman index in economics. We choose to emphasize the connection with ecology due to its resonance with ecological metaphors such as the niche, well-used within relational sociology (e.g., Mohr & Guerra-Pearson, 2010).

analyses, we represent *human rights*' neighborhood, or the set of terms to which it is directly connected, across time by repeating CorText's network construction procedure for each decade-specific subcorpus. In the resulting visualizations, we indicate the multi-terms that comprise the neighborhoods of *human rights* via text labels. To show where *human rights* is situated in relation to distinctive semantic communities, we provide the percentage of 100,000 four-step random walks that begin at the *human rights* node and end at a node in each semantic community. Table 2 contains three kinds of information: (1) the 20 most central terms in a decade-specific network by eigenvector centrality, (2) the eigenvector centrality of the term *human rights* at each period, and (3) the Simpson index score of *human rights* for each decade-specific network.¹²

7.1. Human rights in the 1990s

As is visible in Fig. 1, *human rights* as a term makes only limited appearances in the corpus before 1990.¹³ In 1990, the term increases in popularity and thereafter remains a prominent feature of peace agreement discourse. In the 1990s (Fig. 3), *human rights* appears in the same contexts as the terms *instrument*, *protection*, *respect*, and *violation*. The associated terms, then, are generally self-referential, referring to the process of recognizing and upholding human rights or preventing and answering human rights violations. As Fig. 3 indicates, most terms in *human rights*' neighborhood are contained within a semantic community related to "Development" but occupy a marginal position therein, located near similarly marginal terms that concern the resettlement and repatriation of displaced persons. The largest percentage of random walks (42.3%) complete in the "Development" semantic community. At the same time, nodes to which *human rights* is incident, *respect* and *protection*, operate as semantic bridges, enabling access to two other closely connected semantic communities organized around "Rights" (37.4% of random walks) and "Peace Process" (10.6%).

Achieving an eigenvector centrality score of 0.010, *human rights* occupies a decidedly marginal position in the larger semantic network. Selective readings of texts supports the suggestion that *human rights* discourse at this time is not thickly elaborated in ways consistent across peace agreement texts. When text authors invoke *human rights* within peace agreements, they frequently do so in a cursory manner. One reason for mentioning *human rights* is to express demands that state actors conform to standards set by existing international frameworks as a condition for demobilization, ceasefire, and peace, as exemplified by the following excerpt in Haiti's 1993 "Governors Island Agreement":

"The Secretary-General would consider that failure to comply with the undertakings would include, inter alia, refusal by the High Command of the Armed Forces to obey the decisions of the new Commander-in-Chief who is to be appointed in accordance with point 8 of the Agreement, and numerous violations of human rights and fundamental freedoms set forth in the international instruments to which Haiti is a party and in the Constitution of Haiti."

In such instances, *human rights* retrieves its meaning extratextually, in reference to a backdrop of preexisting frameworks.

The terms *human rights* and *right* during this period are mostly differentiated. Table 2 indicates that, in the 1990s subnetwork, the term *right* has an eigenvector centrality score of 0.684, indicating that it is a highly elaborated concept within peace agreement texts in this period. Fig. 4 provides a visual representation of *right*'s neighborhood. Within the subgraph of the "Rights" community, *right* achieves an eigenvector centrality score of 0.933.¹⁴ In other words, unlike *human rights*, *right* resides within a semantic community in which it, along with concepts such as *indigenous peoples* (subgraph eigencentrality = 1), *culture* (0.928) and *community* (0.906), is among the organizing principles. Among the terms associated with *right* in its semantic community are *association*, *autonomy*, *community*, *compensation*, *convention*, *culture*, *determination*, *discrimination*, *expression*, *form*, *framework*, *freedom*, *guarantee*, *indigenous communities*, *indigenous peoples*, *institution*, *language*, *nation*, *national unity*, *nature*, *opportunity*, *participation*, *people*, *population*, *practice*, *recognition*, *relationship*, *respect*, *society*, *state*, *value*, *way*, and *woman*. *Right* is used to uphold and codify specific kinds of freedom (*access*, *association*, *autonomy*, *culture*, *expression*, *labor*, *language*, *life*), particularly in reference to groups whose members lack equal access to such rights (*discrimination*, *indigenous communities*, *indigenous peoples*, *woman*). The language of *human rights* within 1990s texts is thus distinct from the language of rights in general — a development that will not survive the next decade.

7.2. Human rights in the 2000s

The 2000s witnesses an expansion of the meaning of human rights: Associations at this time include *affair*, *armed conflicts*, *basis*, *charter*, *child*, *citizen*, *commitment*, *conflict*, *conformity*, *context*, *convention*, *country*, *crime*, *culture*, *declaration*, *discrimination*, *equality*, *form*, *freedom*, *gender*, *good governance*, *governance*, *independence*, *individual*, *instrument*, *judiciary*, *justice*, *law*, *life*, *people*, *person*, *practice*, *principle*, *promotion*, *protection*, *reconciliation*, *religion*, *respect*, *right*, *rule of law*, *society*, *status*, *system*, *value*, *violation*, and *violence*. (See Fig. 5.) There are multiple notable developments. First, *human rights* no longer belongs to a semantic community related to development but instead resides in a "Rights & Human Rights" semantic community that it substantially anchors. Within the subgraph of its semantic community, *human rights* is the most central term. Many members of this category refer to important historical documents in

¹² Interpreting the eigenvector centrality score is straightforward: The most central concept receives a score of 1, while the magnitude of the departure from 1 represents the node's relative difference in terms of centrality. Thus, the terms that rank highest are those most thickly elaborated within peace agreement texts.

¹³ To indicate the validity of our interpretations of semantic categories, Supplementary Appendix #3 contains the top 25 terms of each semantic community for each timeframe. These terms were identified by calculating each node's eigenvector centrality in network subgraphs of each distinctive community.

¹⁴ To reiterate, Supplementary Appendix #3 contains eigenvector centrality scores for semantic community subgraphs.

Table 2

Statistics by decade.

Eigenvector centrality by decade – Top 20 Terms			
	1990s	2000s	2010s
1	development (1)	country (1)	community (1)
2	participation (0.919)	environment (0.93)	population (0.987)
3	community (0.838)	order (0.898)	life (0.895)
4	framework (0.795)	people (0.895)	environment (0.888)
5	culture (0.758)	party (0.812)	plan (0.858)
6	society (0.739)	commitment (0.795)	development (0.847)
7	state (0.715)	peace (0.762)	access (0.815)
8	right (0.684)	reconciliation (0.745)	condition (0.799)
9	institution (0.665)	context (0.728)	income (0.737)
10	need (0.66)	human rights (0.719)	infrastructure (0.707)
11	nation (0.646)	program (0.673)	good (0.688)
12	country (0.618)	protection (0.667)	program (0.679)
13	objective (0.615)	need (0.65)	priority (0.646)
14	people (0.588)	conflict (0.623)	land (0.644)
15	effort (0.581)	system (0.616)	employment (0.641)
16	dialog (0.543)	measure (0.61)	project (0.598)
17	form (0.538)	armed conflicts (0.606)	family (0.578)
18	role (0.526)	sector (0.593)	promotion (0.578)
19	peace (0.522)	life (0.593)	association (0.541)
20	practice (0.509)	process (0.582)	education (0.518)
Statistics on human rights by decade			
Eigencentrality	0.010	0.719	0.109
Simpson index	0.337	0.307	0.546

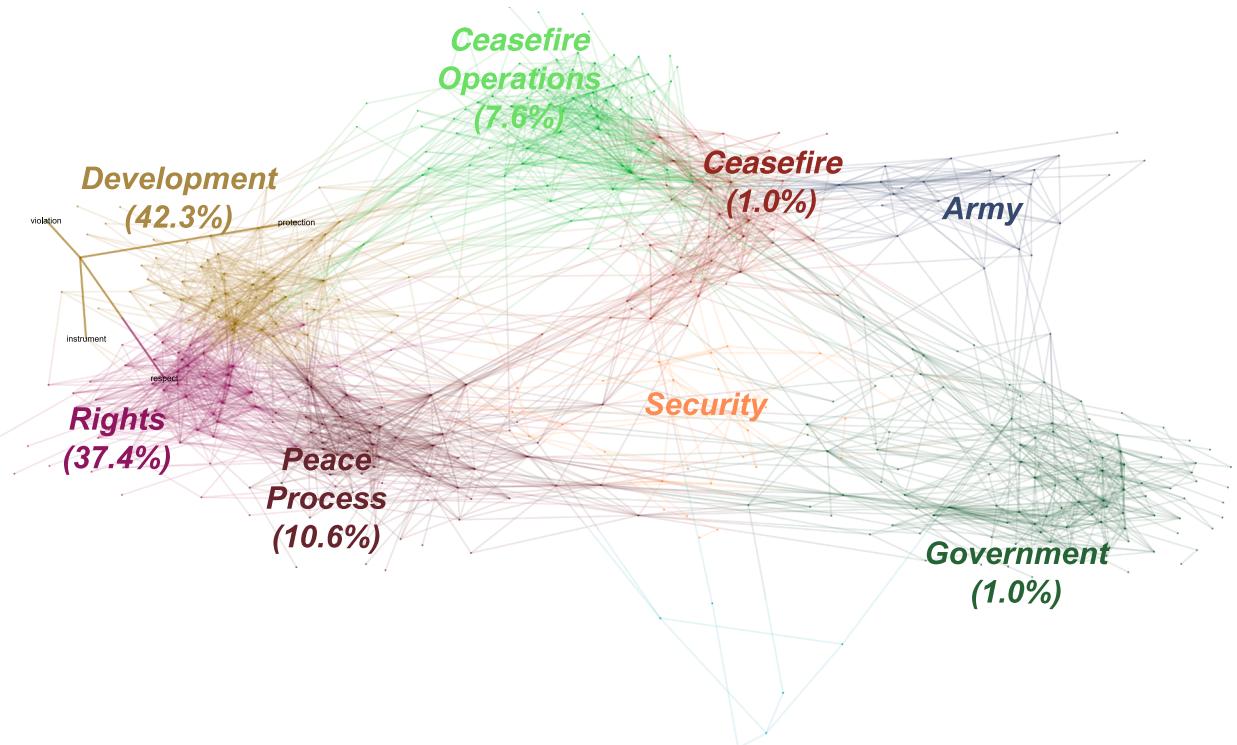


Fig. 3. Neighborhood of *human rights* in the 1990s, embedded in the larger semantic network. Text over nodes indicates a term is in *human rights*' neighborhood. Numbers in parentheses represent percentage of 100,000 four-step random walks that begin at the *human rights* node and end at a node in that community. Color of nodes and edges indicates community membership.

the establishment of human rights (e.g., *charter*, *convention*) or the process of affirming human rights (e.g., *promotion*, *protection*, *respect*). *Human rights* has become connected to morality- or value-laden terms such as *justice*, *freedom*, *life*, and *equality*. We also observe the appearance of terms such as *gender*, *child*, *religion*, and *discrimination*, which suggests that *human rights* is increasingly articulated with respect to specific vulnerable populations. Its new connections to *culture* and *citizen* show that *human rights* is being

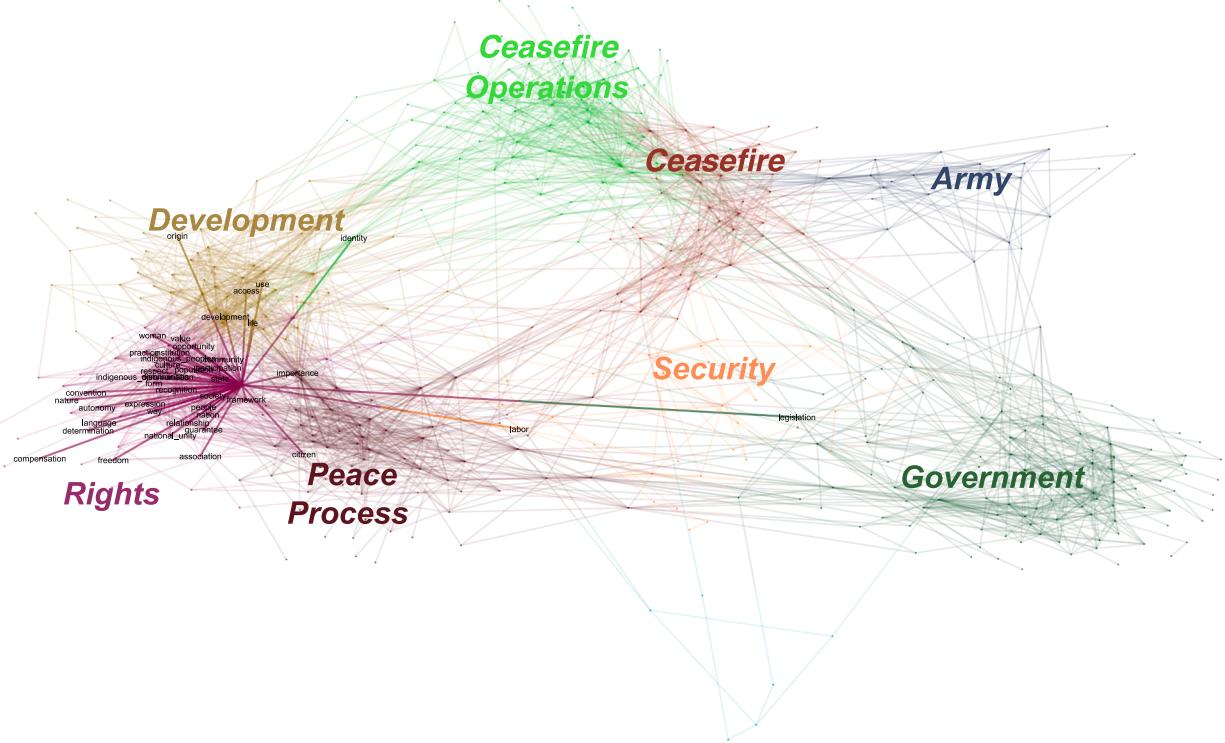


Fig. 4. Neighborhood of *rights* in the 1990s, embedded in the larger semantic network. Text over nodes indicates a term is in *right*'s neighborhood. Color of nodes and edges indicates community membership.

used to undergird and bolster complementary sets of cultural and political rights. Referring back to Fig. 4 (the visualization of the neighborhood of *right* in the 1990s), we see that the language of *human rights* has largely converged with the language of *rights*.

Furthermore, *human rights* connects to members of a semantic community related to the “Peace Process” (*armed conflicts, commitment, conflict, context, country, people, reconciliation*), illustrating how recognition and practical implementation of human rights is referred to as both an objective of and precondition for interparty dialogues. Many of these terms have a high eigenvector centrality in the decade-specific network, which indicates that they are central themes of the peace agreements at this time (*country* = 1; *people* = 0.895; *commitment* = 0.795; *reconciliation* = 0.745; *context* = 0.728; *conflict* = 0.623; *armed conflicts* = 0.606) and contribute to *human rights*’ high global eigenvector centrality score (0.719). This offers evidence that *human rights* in this period occupies an important bridging position, integrating concern for entitlements/protections for persons and concern for establishing peace in the wake of conflict. Examining the reach of *human rights* into distinctive semantic communities, we note that fewer than half (48.9%) of all random walks complete in the “Rights & Human Rights” community. Meanwhile, 20.9% end in the “Peace Process” community, 12.0% in the “Development” community, 4.9% in the “Refugees” community, and 7.9% in the “Government” community. *Human rights*’ expanded meaning is also captured via the Simpson index; its score of 0.307 indicates that random walks beginning at *human rights* complete in multiple semantic communities.

For parties in the peace process at this time, the language of human rights has become a rhetorical tool mobilized in pursuit of and thus uniting numerous practical ends. The “Rights & Human Rights” community is situated in an intermediary position between communities dedicated to the resolution of conflict and attention to its victims (“Peace Process” and “Refugees”) and communities dedicated to socioeconomic development and state management of resources (“Development” and “Budget”). Post-1990s, parties to peace agreements used *human rights* as a term more flexibly, in ways largely aligned with the preexisting language of rights, complementing *right* as a means to ensure equal treatment with respect to domains of *access, association, autonomy, culture, expression, labor, language, and life*. The term *human rights* became less self-referential in the sense that authors did not simply refer to preexisting instruments and texts but elaborated the meaning of *human rights* for many purposes: to gesture toward protected status for vulnerable groups, to offer rhetorical support for the preservation of local cultures and cultural rights, and — distinguishing it from the language of rights in the 1990s — to serve the reconstruction of national unity and reconciliation of parties post-conflict.

7.3. Human rights in the 2010s

In the 2010s (Fig. 6), we again observe an expansive interpretation of *human rights*, relative to the 1990s. During this period, *human rights* shares associations with the terms *agenda*, *citizen*, *conflict*, *culture*, *equality*, *freedom*, *gender*, *guarantee*, *humanitarian law*, *measure*, *organization*, *political participation*, *promotion*, *recognition*, *reconciliation*, *respect*, *right*, *scenario*, *social movements*, *society*, *strengthening*,

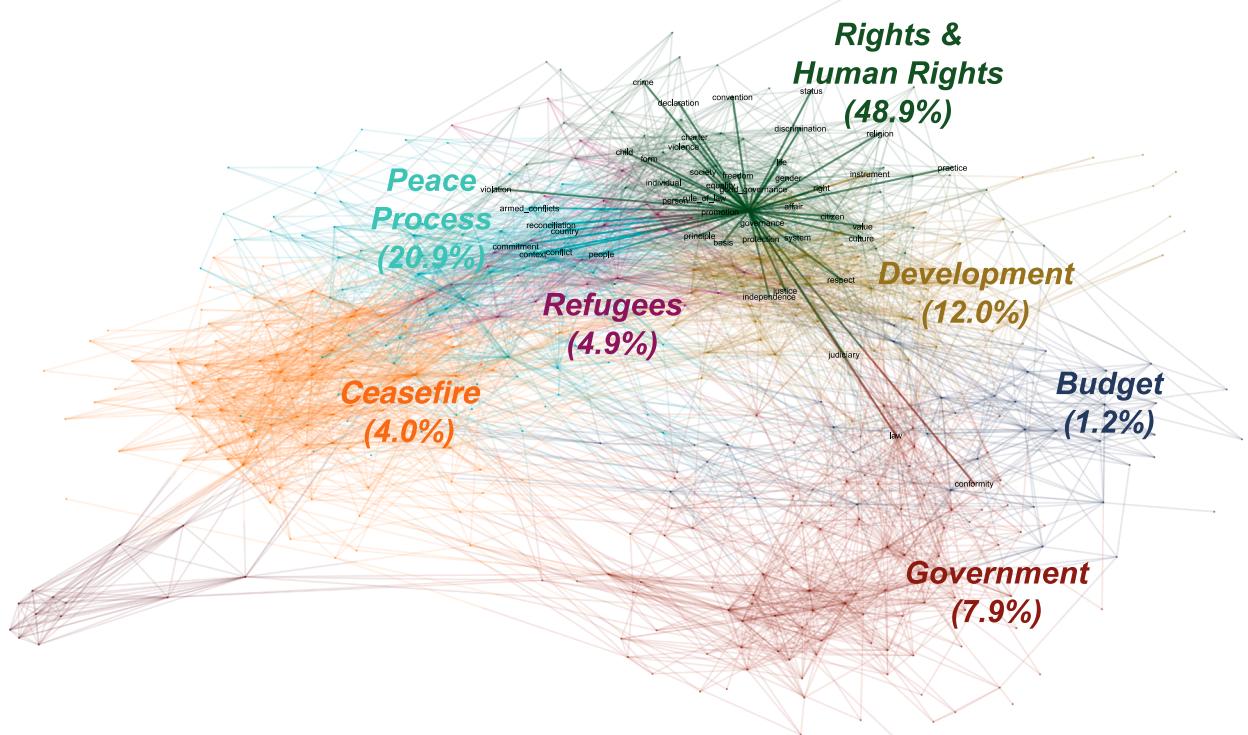


Fig. 5. Neighborhood of *human rights* in the 2000s, embedded in the larger semantic network. Text over nodes indicates a term is in *human rights* neighborhood. Numbers in parentheses represent percentage of 100,000 four-step random walks that begin at the *human rights* node and end at a node in that community. Color of nodes and edges indicates community membership.

and *victim*. Indeed, we observe many of the same themes as in the 2000s: use of human rights to recognize and protect groups recognized as vulnerable; to defend protected groups' cultures and cultural practices; and to support reconciliation of the parties. In addition, *human rights'* connection to *political participation* and *social movements* (along with the term *citizen*, to which it was already connected in the previous decade) suggests that it is increasingly invoked in reference to political activities. In other words, *human rights* has in the 2010s become integrated with terms concerning democratic processes, citizenship, and civil society. For instance, Colombia's "Final Agreement to End the Armed Conflict & Build a Stable and Lasting Peace" (2016) calls for rural reform to involve "the application and respect, by institutions and citizens, of the principles and regulations of the rule of law, the strengthening of democratic values, coexistence of citizens and the observance of human rights." The semantic community that *human rights* occupies can itself be fairly characterized as concerning "Democracy & Citizenship." The top 20 terms in the community subgraph according to eigenvector centrality include *democracy* (1), *citizen* (0.839), *political participation* (0.737), and *citizen participation* (0.596); other terms in this semantic community include *political activity* and *political movements*.

Human rights occupies a more circumscribed niche within the semantic network during this period; the term does not reach out beyond the cultural holes that distinguish the "Democracy & Citizenship" community from other semantic communities. Nodes that are incident with *human rights* are all located within the "Democracy & Citizenship" community, and 71.4% of all random walks end in the semantic community to which *human rights* belongs — the largest percentage of any of the time periods. Furthermore, *human rights* has a Simpson index score of 0.546, indicating a higher concentration of random walks are failing to escape *human rights'* semantic community. Together, these results suggest that *human rights* as a term is used less in reference to concerns related to other semantic communities and has ceased to occupy a bridging role within the network. On one hand, it seems the institutionalization of human rights has been successful, resulting in a single, generalized language of rights in which human rights exists alongside political and civil rights. On the other hand, the term *human rights* no longer serves an integrative role within the semantic network of the peace agreement texts, which suggests that, per Bell's interpretation, warring parties and INGO professionals are recognizing limits in human rights discourse's relevance in addressing other pressing concerns in the peace process.

Furthermore, the language of rights in general has become less central in comparison with competing themes. For the first time, neither *rights* nor *human rights* is present among the 20 most central terms. The list of top terms by eigenvector centrality is instead dominated by concepts in the "Development" semantic community: *community*, *population*, *life*, *environment*, *plan*, *development*, *access*, *condition*, *income*, *infrastructure*, *good*, *program*, and so on. In previous decades, the language of *rights* and *human rights* offered rhetorical support for semantic communities related to peace process and development, thereby helping integrate them. In the 2010s, development and peace process discourses have become highly differentiated, as the community containing terms related to the peace process (*peace agreement*, *truth and acknowledgement*) is no longer focused on dialog between and trust among warring parties but,

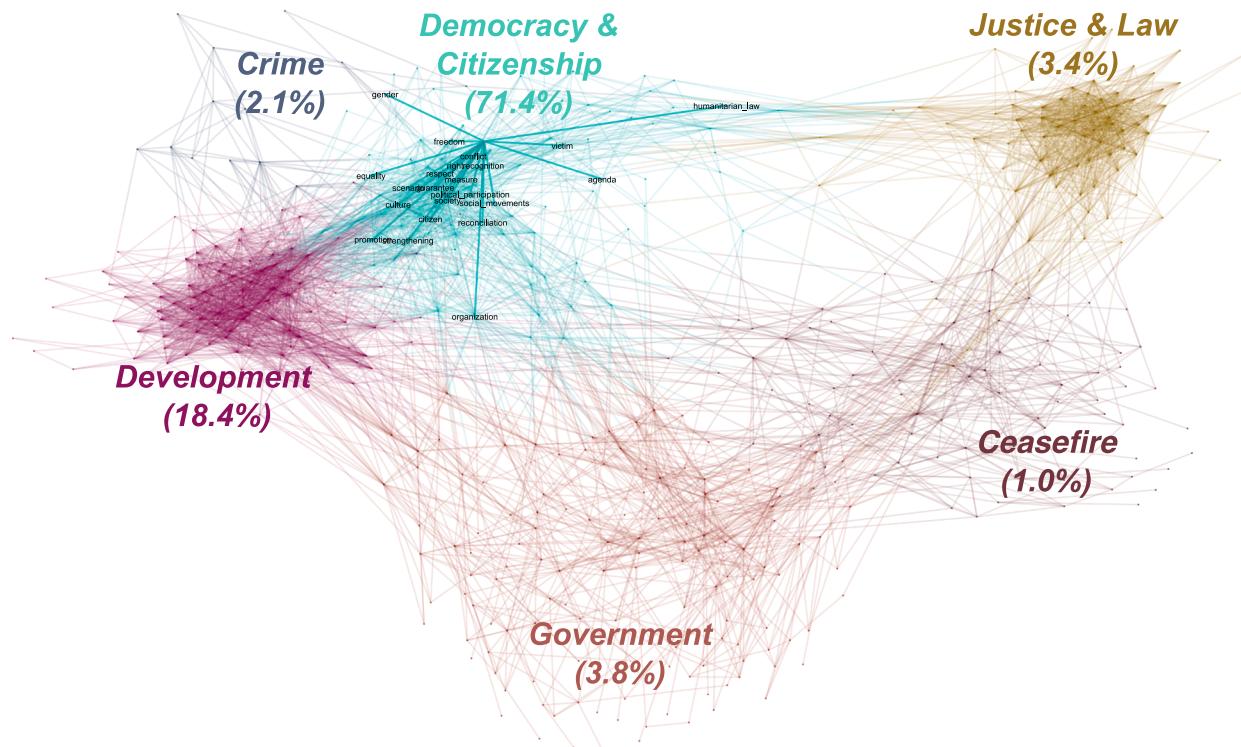


Fig. 6. Neighborhood of *human rights* in the 2010s, embedded in the larger semantic network. Text over nodes indicates a term is in *human rights*' neighborhood. Numbers in parentheses represent percentage of 100,000 four-step random walks that begin at the *human rights* node and end at a node in that community. Color of nodes and edges indicates community membership.

instead, emphasizes legal justice (*amnesty, decision, jurisdiction, law, prosecution, ruling*). Taken together, these developments suggest that, first, *human rights* language has become a mostly subsidiary discourse to the more thickly elaborated discourse surrounding *community* and *development* and, second, that *human rights* has become disconnected to discourse about peace processes as parties interpret conflict resolution through the lens of legally redressing violations of international law.

8. Conclusion

World polity theory provides a framework for understanding nation-states' adoption and use of institutional templates as relationally contingent: Whether and when a nation-state adopts a template depends upon the nation-state's embeddedness within a larger network of peer nation-states, INGOs, and treaties (Boli & Thomas, 1997, 1999; Meyer et al., 1997) in ways that are formally quantifiable (Beckfield, 2010; Paxton, Hughes & Reith, 2015). Where WPT practices relational sociology in the sense that it situates nation-state practices in reference to the nation-state's position in systems of world-society relations, WPT nonetheless remains wedded to a largely substantialist understanding of institutional concepts as more or less uniform across contexts. But institutional concepts such as human rights are not static or uniform in meaning. At best, concepts become embedded within a temporarily settled configuration of relations with other concepts, which offers a semblance of permanence and durability. Drawing upon principles from relational sociology (Emirbayer, 1997; Mohr, 1998; Mohr & White, 2008; Somers, 1993, 1995), we endorse a meaning-structure institutionalism that interprets the meaning of concepts in terms of those concepts' shifting semantic environments. By extending the principle of relationality to institutional concepts, we illuminate the semiotic fragility concepts experience as they become integrated into the world-society.

In line with this idea, we empirically examine the meaning of *human rights* in peace agreements across time and find different styles of articulating human rights within peace agreements. In the 1990s, human rights terminology was not thickly elaborated, at least not in ways consistent across peace agreement texts. The term *human rights* appeared in references to extratextual sources such as constitutions and international instruments and the few terms (*violation, protection, respect*) consistently associated with *human rights* in the semantic network were self-referential. In the 2000s, human rights language became more multi-faceted and linked to substantively disparate concepts. This included an increase in connections with value-laden concepts such as *freedom* as well as with language securing a broad array of social, cultural, and political rights for vulnerable and marginalized populations. Finally, the 2010s saw a conceptual retreat of human rights language from other semantic communities but an increased connection to civil society, political process, social movements, and social organizations as human rights became more deeply entangled with the language of political/civil rights. That *human rights* as a concept is mobilized predominantly in reference to other concepts in its home semantic community

may indicate its successful institutionalization and standardization, on one hand, but also suggests, as is consistent with Bell's (2017) interpretation, a sense among world-society actors that the language of human rights as currently constituted possesses a diminished capacity to speak to issues that address local contingencies and concerns.

Our results have implications for some foundational concepts in WPT. One central concept is isomorphism, referring to the convergence of nation-state practices and cultural models within the world-society. World polity theorists point to how ideas and practices "take on standardized forms" that reappear in contexts across the globe, a finding that "makes sense only if common world forces are at work" (Meyer et al., 1997:152). Critics contend, on the other hand, that WPT's focus on homogenizing processes inherently neglects diversity in cultural forms across sites. In line with these critics, we suggest that WPT's assumption of isomorphism may conceal the diversity of distinctive relational formations through which world-society actors articulate institutional concepts such as human rights. Relational methodologies can help decenter specific cultural models of institutional concepts by empirically illustrating qualitative variation even when conventional quantitative metrics suggest increasing isomorphism. Another central concept is decoupling, referring to when organizations express commitments to the values of a particular field but pursue different behaviors in practice (Hallett, 2010; Meyer & Rowan, 1977). One relevant example of decoupling is when a nation-state embraces human rights within rational-legal texts such as constitutions or peace agreements but does not enact them in practice. Decoupling as a concept implicitly has as its referent a specific template, to and from which organizational actors varyingly adhere or depart. What at first glance appears to be decoupling, however, may be better explained in terms of changes in relations of meaning, as happens, for instance, when nation-state practices shift in response to a concept's new meanings even as decoupling appears to have occurred in relation to its original meanings.

Our discussion remains mostly suggestive of the theoretical promise of integrating WPT with a fundamentally relational approach to culture. In our analysis, we show how meaning-structure institutionalism offers a corrective to WPT's lack of engagement with how institutional concepts, articulated within bureaucratic texts, are relationally contingent. Furthermore, we argue that relational methodologies enable analysts to treat such concepts as qualitatively multi-faceted in ways that methodologies currently favored in the WPT literature do not. Future analyses may further exploit the duality of social structure and institutional meanings. John Mohr (Breiger & Mohr, 2004; Mohr & Duquenne, 1997) was one of the most forceful and effective proponents of using the network-analytic principle of duality to convey how two analytically autonomous orders interpenetrate one another. A more fully realized meaning-structure institutionalism could incorporate WPT's concern for how nation-states are embedded within networks based upon their co-membership in international organizations (Beckfield, 2010) into its analysis, thereby illuminating how orderings of relationships among nation-states correspond to orderings of relationships among cultural concepts (such as human rights), and vice versa. In this way, Mohr's groundbreaking insights herald a promising, wholly relational world polity institutionalism.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.poetic.2021.101598](https://doi.org/10.1016/j.poetic.2021.101598).

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