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Chains in Episodes of Democratization*

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Abstract

In what sequence do democratic institutions develop during episodes of liberalization in autocracies? Existing research has theorized about the processes and causes of institutional change that make up regime transitions. However, there has been limited research to evaluate the institutional sequence of democratization in a systematic, quantitative framework. In this paper, we introduce a novel methodology, Analysis of Chains (AOC), which is adapted from evolutionary biology and partial orders in mathematics. The article uses AOC to catalog chains of institutional change across 36 indicators of democracy in episodes of liberalization from 1900 to 2021. Our findings are the first to use a quantitative approach to systematically describe long sequences of democratization across many countries and over a long time series. This innovative analysis provides an important finding: we show that elections are the most common element of democracy to develop first during democratization. However, we find little correlation between the early development of elections and successful transition to democracy. These results make a pivotal contribution to ongoing debates about the process of regime transition as well as efforts to promote democracy around the world.

Introduction

Regime transition are typically characterized by significant uncertainty (Schedler, 2013). As in a more tumultuous and impulsive version of chess, there are "people challenging the rules on every move, pushing and shoving to get to the board, shouting out advice and threats from the sidelines, trying to cheat whenever they can" (O'Donnell and Schmitter, 1986, p. 66). Some of the most influential works on democratization sought to decipher if the order of events in such periods of uncertainty led to varying outcomes of regime transitions. For instance, Dahl (1971), O'Donnell and Schmitter (1986), and Przeworski (1991) started to identify common institutional sequences through which democratization unfolds and the consequences of these sequences for successful (or failed) democratization.

Rather than continuing to evaluate the institutional order of transition, however, literature on democratization came to focus on the role of particular actors (e.g. Mainwaring and Pérez-Liñán, 2014) and external and structural conditions (e.g. Acemoglu and Robinson, 2006; Przeworski et al., 2000; Treisman, 2020; Coppedge et al., 2022a) to explain democratization. In a stylized fashion, one could say that contemporary research on democratization evaluates the underlying *causes* of regime change, while black-boxing the internal *process* leading to democracy.

In effect, recent literature has neglected to study the *order* of institutional sequences through which liberalization unfolds. There has been little empirical research to catalog patterns of democratization in a systematic way. Some recent exceptions (Edgell et al., 2021; Wilson et al., 2022) begin to evaluate the internal changes that drive liberalization by using pairwise domination analysis (Lindenfors, Krusell, and Lindberg, 2019) to identify which institutions tend to develop earlier across episodes of regime transitions. Yet this approach is limited. It identifies pairs of institutions that tend to precede or follow each other, but it cannot make claims about longer sequences of institutional development, where several institutions change one after another, as suggested by seminal theoretical works. These *chains*—as we refer to sequences of change among three or more institutions—are the analytical focus of this paper. This paper makes two primary contributions. First, it introduces a novel methodology, Analysis of Chains (AOC), to assess both the order and extent to which different elements of democracy develop during episodes of liberalization. This method builds on earlier adaptations of methods from evolutionary biology (Lindenfors, Krusell, and Lindberg, 2019) by adding a customized transitive model to identify chains of institutional reforms. Beyond the substantive focus of this paper on regime change, the AOC method provides an important framework for evaluating long sequences of development across any number of issue areas.

The second contribution is the descriptive evaluation of the institutional development of 36 distinct elements of liberal democracy across 202 countries from 1900 to 2021, using data from the Varieties of Democracy (V-Dem) project (version 12) (Coppedge et al. 2022b, 2022c, 2022d; Peimstein et al. 2022).This analysis is the first systematic, quantitative account of chains of institutional changes in democratization across a large sample of cases over a long time series. Previous research has primarily utilized case studies and small-N comparisons to analyze the process of regime transitions. In contrast, our methodology yields comprehensive, generalizable results about the typical patterns of democratization over the last century. We make no causal claims. Nevertheless, our descriptive results yield critical insight for debates about the process of democratization.

To identify periods of democratization, we rely on the Episodes of Regime Transformation (ERT) Dataset (Edgell et al., 2022). Democratization episodes in the ERT data correspond to periods of sustained and substantial liberalization in autocracies. In total, our analyses include 377 such episodes. The analysis yields two main findings. First, it shows that elections are the most common element of democracy to develop earlier, and to a greater extent, than other aspects of democracy. Second, the analysis reveals limited evidence for an association between this ordering and the outcome of democratization episodes. Episodes in which elections develop first are no more likely to terminate in successful transition to democracy than episodes in which elections develop later.

The paper is structured as follows. First we review existing research on regime transitions, focusing on two schools of thought about how liberalization unfolds (Lindberg, 2006; O'Donnell and Schmitter, 1986). Second, we introduce the new methodology (AOC), which identifies chains of institutional change across episodes of liberalization. Finally, we present descriptive analysis to show (1) the process by which democratization typically unfolds and (2) the correlation between the sequence of democratization and its outcome: successful or failed democratic transition.

On Transitions to Democracy

Research on democratization provides few insights about the internal process of democratization and whether particular orders of institutional change facilitate successful transitions. As Dahl (1971) noted on the challenge of promoting democracy, there is a "lack of knowledge about the long causal chain running from outside help to internal conditions to changes of regime" (p. 210). This remains largely true 50 years on, for two main reasons. First, existing research lacks a methodology equipped to analyze sequential progress in episodes of regime transition beyond process tracing in comparative case studies. Second, there has been insufficient attention to the different ways in which institutions develop during episodes of liberalization. In this section, we initiate our evaluation of institutional chains of

democratization by defining key terms, reviewing existing research on democratization, and assessing the potential for a quantitative study of the institutional order of regime transition.

We define democratization as a gradual process whereby a regime becomes increasingly democratic.[1] O'Donnell and Schmitter (1986) divide a democratic transition into initial liberalization (extension of individual and collective rights) and democratization (adoption of democratic rules of the game such as universal suffrage, regular elections, legalization of political parties, etc.). The key is that episodes of regime transition are gradual processes where different sub-components of democracy improve, and that such changes vary in timing, order, and degree. We are interested in all this variation during movements toward democracy, with the scope conditions that episodes originate in autocratic countries.

Perhaps the rich tradition of research on the structural determinants of democratization has also contributed to the limited attention to the internal processes of democratization. Beginning with Lipset (1959), a long debate ensued about whether, and to what extent, modernization and other structural conditions affect the prospects for democratization (Acemoglu et al., 2009; Boix, 2003; Huntington, 1991; Przeworski et al., 2000; Teorell, 2010; Treisman, 2020). Some recent contributions also analyze how particular features of autocratic regimes can obstruct transitions to democracy (Lachapelle et al., 2020; Levitsky and Way, 2010; Miller, 2020). These and other works provide a wealth of understanding about the conditions under which democratization is more or less likely to occur. However, this valuable literature provides less insight into the *process* by which democratization unfolds.

There is a large body of research concerned with the internal processes of democratization. Yet, the majority of this work has focused on actors such as elites (Ziblatt, 2017; Treisman, 2020), civil society (Bernhard, 1993; Bunce and Wolchik, 2011; Przeworski, 1991; Putnam, Leonardi, and Nanetti, 1993), and political parties (Hicken and Martínez, 2011; Mainwaring and Scully, 1995). While providing rich accounts of the role of actors during episodes of democratization, this research tends not to focus on the internal institutional sequence of reform characterizing processes of democratization.

The importance of temporal sequencing for the process of democratization does hold longstanding support in the literature. Nevertheless, research in this vein tends to focus on the order in which democratic reform and structural transformations of society develop in relation to one another (e.g. Moore, 1966; Reuschmayer, Stephens, and Stephens, 1992; Rustow, 1970). For example, there is a long-standing debate about whether a country needs some degree of state capacity before democratizing in order to sustain democracy and avoid conflict and regime breakdown (Carothers, 2007; Mansfield and Snyder, 2007). Similarly, Linz and Valenzuela (1994), Mainwaring (1993), and

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[1] Our conceptualization of democratization is different from studies that conceive of democratization as a discrete event (Boix, 2003; Haggard and Kaufman, 2012; Miller, 2015; Przeworski et al., 2000).

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Sartori (1987) argue that a strong party system is a prerequisite for democratic stability. Ziblatt (2017) and Riedl et al. (2020) propose that the formation of strong incumbent elites during autocracy can facilitate democratization. These works offer insight into how democratization can successfully develop in relation to and conjunction with other societal changes. However, there are relatively few works that consider the effects of the ordering of the development of the different components of democracy itself.

Some influential theoretical works propose that differences in internal processes might explain why democratization takes different pathways (e.g., Dahl, 1971; O'Donnell and Schmitter, 1986; Przeworski, 1991). Classic liberal theory, for instance, anticipates that democracies are more likely to endure if individual rights and institutional checks and balances precede the granting of mass suffrage (Berlin, 2002). Similarly, Dahl (1971) proposes that democracy is more likely to survive where competition is established before participation expands. Munck and Leff (1997) argue that "The very process of transition from authoritarian rule, independently of the conditions that generated it, helps determine not only the prospects of democratic consolidation but also the success of the transition to democracy in the first place" (p. 344).

These contributions make some progress in theorizing the institutional order by which democratization unfolds or, at least, recognizing the importance of institutional sequencing. However, there is still a gap between these theories and available empirical analysis. The few investigations of democratization sequences that do exist focus only on particular regions and time periods, like Sub-Saharan Africa from 1989 to 2003 (Lindberg, 2006), Europe in the 19th and early 20th centuries (Ziblatt, 2017), or Southern Europe and Latin America between the 1950s and 1980s (O'Donnell and Schmitter, 1986). Further, these works generally analyze sequencing between a few institutions. In contrast, Edgell et al. (2021) analyze the temporal ordering across 24 aspects of democracy but compare only *pairs* of institutions, leaving open questions about longer sequences or chains of democratic development.[2]

In other words, existing scholarship lacks a cohesive account of longer chains of institutional change across countries and time, encompassing a range of indicators of democratic institutions. In the next section, we set the stage for our analysis of such chains by reviewing two of the most prominent and elaborated existing theorizing on the order of democratization: O'Donnell and Schmitter's (1986) *Tentative Conclusions about Uncertain Democracies* and Lindberg's (2006) *Democracy and Elections in Africa*.

Theorizing Internal Sequences of Democratization

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[2] Another important distinction is that Edgell et al. (2021) compare *values* of democracy indicators *across* episodes, whereas we compare *changes* of democracy indicators *within* episodes.

O'Donnell and Schmitter's (1986) canonical theory suggests the internal sequence of democratization proceeds in three steps: (1) an opening up of the authoritarian regime by liberalization of individual rights and civil liberties, (2) a resurrection of civil society that extends associational rights, and (3) the holding of (sufficiently) free and fair "founding" elections. This order was challenged by (among others) the more recent account of Lindberg (2006). In this work, Lindberg (2006) argues that, when competitive elections are introduced early in an episode of democratization, these elections can foster organizational and political skills. Democratizing agents then increasingly utilize elections to mount pressure for extended civil liberties and cleaner elections. It is the repetition of competitive elections—even if flawed—that propagate other institutional reforms that can lead to democratization.

O'Donnell and Schmitter's (1986) insightful comparative analysis is based on a set of early third wave democratizers in Southern Europe and Latin America, most of which were military dictatorships before episodes of regime transition began. The authors find that episodes of democratization begin with a period of gradual liberalization. Soft-liners within the ruling elite agree to some liberalizing reforms that extend individual rights in order to legitimize their rule. In his analysis of Sub-Saharan Africa between 1989-2003, Lindberg (2006) instead finds that multiparty elections are typically introduced early in episodes of democratization, when individual and associational rights are still limited.

If the democratization process continues in O'Donnell and Schmitter's (1986) framework, the extension of individual rights can lead to a second step, the "resurrection of civil society," during which there is broad political mobilization across social groups. Such mobilization strengthens associational rights through increased demand for and exercise of such rights by large parts of the population. In Lindberg's (2006) analysis, this extension of rights is primarily developed in relation to the electoral process. Elections encourage the formation of parties, interest groups, civil society organizations, and media outlets, and their increased activity persists and develops between elections. Hence, where O'Donnell and Schmitter (1986) see these pressures for the extension of rights primarily occurring outside of the formal political arena, Lindberg (2006) finds them developing in conjunction with the competition present in national elections.

If a resurrected civil society manages to mount enough pressure on incumbent elites, the third and final step of O'Donnell and Schmitter's (1986) sequence takes place: the introduction of "founding elections." These elections allow full participation and establish real political competition for political office, amounting to successful democratization. Lindberg's (2006) account of competitive elections early in the sequence leads to the opposite conclusion, where elections are not the culmination but a central instigator of what can become an episode of democratization. Another difference in

Lindberg's (2006) account is that relatively free and fair elections are gradually developed over repeated elections where both incumbents and opposition learn to participate in fair competition.

Neither O'Donnell and Schmitter (1986) nor Lindberg (2006) portray these sequences as inevitable once they are initiated. O'Donnell and Schmitter (1986) emphasize that liberalization processes frequently lead to another type of autocratic rule, and some cases never make any reforms beyond the first step of the sequence, stabilizing as a liberalized autocracy (*dictablanda*, in their terminology). At the second stage, political pacting in face of waning mass mobilization may lead to very limited electoral reforms, producing what the authors term *democradura*. In a similar vein, Lindberg (2006) observes that electoral authoritarianism can vary in stability, as some regimes are more equipped at co-opting opposition forces, controlling the media, and resisting calls to level the electoral playing field. Some regimes also face weaker opposition and civil society pressure for democratization. The democratizing effect of elections requires that societal and opposition forces strive to extend democratic rights and procedures, and that they can amass enough pressure on the incumbent elites over time to force concessions.

Despite the debates surrounding these two works, there has been no empirical analysis to evaluate whether the alternative sequences characterize episodes outside the original temporal and geographical scopes of the works. A series of scholars debate the idea of a cumulative effect of repeated elections (e.g., Bunce and Wolchik, 2010; Edgell et al., 2018; Lindberg, 2009; Ruchan and Bernhard, 2013) but do not address the full sequence that Lindberg (2006) theorizes beyond Sub-Saharan Africa. Likewise, we are not aware of any study that has systematically tested the sequence O'Donnell and Schmitter (1986) put forth in a large sample of democratization episodes. This lack of empirical testing is most likely due to a lack of nuanced data and methodological techniques to adjudicate between theorized sequences of institutional changes. Utilizing the rich V-Dem data and introducing a unique method (AOC), this paper adds new contributions by (1) describing common chains of institutional development across democratization episodes and (2) evaluating whether particular sequences are more likely to lead to successful transition to democracy than others.

Figure 1. Sequence of Democratization: O'Donnell and Schmitter (1986)

To guide the analysis of these two accounts, Figures 1 and 2 present a stylized representation of the sequence of transition in the works by O'Donnell and Schmitter (1986) and Lindberg (2006), respectively. In short, Figure 1 shows the expectation from O'Donnell and Schmitter (1986) that

individual rights will develop first during sequences of liberalization and democratization, followed by associational rights and then elections. Figure 2 captures the expectation from Lindberg (2006) that elections will develop first, setting the stage for future gains in individual and associational rights.

Figure 2. Sequence of Democratization: Lindberg (2006)
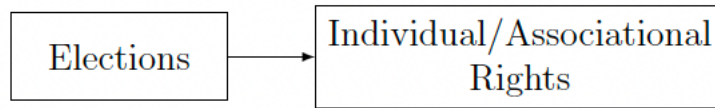
Analysis Of Chains (AOC)

This section introduces Analysis of Chains (AOC), a new methodology to evaluate long sequences of change (*chains*) across variables. In brief, AOC involves: (1) selecting an appropriate sample of cases, (2) identifying relevant variables, (3) converting the data into a change matrix, (4) creating percentage tables for each case in the data, and (5) generating chains using the logic of an iterative tournament. This section elaborates each of these steps.

Sample Selection

Setting the standard for much the democratization literature, O'Donnell and Schmitter (1986) defined the object of study as "the interval between one political regime and another," which is marked by "the launching of the process of dissolution of an authoritarian regime" and "the installation of some form of democracy, the return to some form of authoritarian rule, or the emergence of a revolutionary alternative" (p.6). This conceptualization describes the sample of interest: *episodes* of regime change. These episodes may be short-lived or prolonged and may or may not ultimately conclude in a transition to democracy. The common feature of democratization episodes is that they begin in an autocratic context and have an identifiable conclusion.

To capture a sample of such democratization episodes, we use the Episodes of Regime Transformation (ERT) dataset, version 4.0 (Edgell et al., 2022; Maerz et al., 2023). The ERT data identifies periods of sustained and substantial change in V-Dem's Electoral Democracy Index (EDI) (Coppedge et al., 2022b).[3] From this sample, we select episodes of *liberalization*. These are episodes that originate in autocracies according to V-Dem's Regimes of the World (RoW) classification (Lührmann, Tannenberg, and Lindberg, 2018), and we omit episode-years following transitions to democracy. We also follow the ERT's classification of failed and successful democratization to identify the outcome of

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[3] The Appendix further details the inclusion criteria for liberalization episodes.

the liberalization episode. In total, the sample includes 377 episodes of liberalization and 1553 country years from 1900 to 2021.

Identification of Variables

The next step in the AOC methodology involves identifying relevant variables. Here, we are interested in variables that map onto the theories of democratization from Lindberg (2006) and O'Donnell and Schmitter (1986). The V-Dem data is uniquely equipped to capture these different elements of democracy. Specifically, we use the ordinal indicators from the component indices of V-Dem's Liberal Democracy Index (LDI) that align with the theories of interest: individual liberty (v2xc_rol), freedom of expression and alternative sources of information (v2x_freexp_altinf), freedom of association (v2x_frassoc_thick), clean elections (v2xel_frefair), and suffrage (v2x_suffr). To facilitate the analysis of the competing theories mentioned above, we group the indicators into three categories: individual rights (individual liberty), associational rights (freedom of expression and alternative sources of information + freedom of association), and elections (clean elections + suffrage). Table 1 lists the categorization of each indicator.[4] The AOC methodology can take interval, ordinal, or dichotomous variables as inputs.

Change Matrix

The next step in the AOC method is to measure the amount of change in each variable compared to the variable's value at the start of the case. In our application, if a democracy indicator took the value of 3 in the year before a democratization episode, maintained a value of 3 in the first and second years of the episode, and increased to 4 in the third year, it would be coded as 0 in the first two years and 1 (for the 1-unit increase) in the third year. As part of this step, we also omit indicators that did not change at all over the course of the liberalization episode. These are variables that would be considered "inactive" during the episode.[5]

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[4] The Appendix includes further details about indicator classification.

[5] Following the theories we juxtapose here, we are interested in the order and extent of *change* during episodes of democratization. Depending on the research question, future work using the AOC method may elect to keep the unchanging variables in the analysis.

Table 1. V-Dem Indicators Included in Analysis

Individual Rights	Access to justice, men (v2clacjstm)
	Access to justice, women (v2clacjstw)
	Property rights, men (v2clprptym)
	Property rights, women (v2clprptyw)
	Freedom from torture (v2cltort)
	Freedom from political killings (v2clkill)
	Freedom from forced labor, men (v2clslavem)
	Freedom from forced labor, women (v2clslavef)
	Freedom of religion (v2clrelig)
	Freedom of foreign movement (v2clfmove)
	Freedom of domestic movement, men (v2cldmovem)
	Freedom of domestic movement, women (v2cldmovew)
	Discussion, men (v2cldiscm)
	Discussion, women (v2cldiscw)
Associational Rights	Government media censorship (v2mecenefm)
	Harassment of journalists (v2meharjrn)
	Media self-censorship (v2meslfcen)
	Academic and cultural expression (v2clacfree)
	Media bias (v2mebias)
	Media critical (v2mecrit)
	Media perspective (v2merange)
	Party ban (v2psparban)
	Barriers to parties (v2psbars)
	Opposition parties autonomy (v2psoppaut)
	Civil society entry and exit (v2cseeorgs)
	Civil society repression (v2csreprss)
Elections	Elections multiparty (v2elmulpar)
	Election management body autonomy (v2elembaut)
	Election management body capacity (v2elembcap)
	Voter registry (v2elrgstry)
	Vote buying (v2elvotbuy)
	Other voting irregularities (v2elirreg)
	Election intimidation (v2elintim)
	Other election violence (v2elpeace)
	Election free and fair (v2elfrfair)
	Suffrage (v2x_suffr)

Figure 3. Brazil Democratization Episode, 1975-1987

Panel (a)

indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
property, men	4	4	4	4	4	4	4	4	4	4	4	4	4
free religion	3	3	3	3	4	4	4	4	4	4	4	4	4
free foreign movement	3	3	3	3	3	3	3	3	3	3	4	4	4
free movement, men	3	3	3	3	3	3	3	3	3	3	4	4	4
free movement, women	3	3	3	3	3	3	3	3	3	3	4	4	4
voter registry	3	3	3	3	3	3	3	3	3	3	3	4	4
election violence	3	3	3	3	3	3	3	3	3	3	3	4	4
suffrage	3	3	3	3	3	3	3	3	3	3	3	3	3
EMB capacity	3	3	3	3	3	3	3	3	3	3	3	3	3
property, women	3	3	3	3	3	3	3	3	3	3	3	3	3
party barriers	2	2	2	2	2	3	3	3	3	3	4	4	4
media perspective	1	1	1	1	3	3	3	3	3	3	4	4	4
party ban	1	1	1	1	2	3	3	3	3	3	4	4	4
party autonomy	1	1	1	1	2	3	3	3	3	3	4	4	4
media critical	1	1	1	1	1	3	3	3	3	3	3	4	4
elections multiparty	2	2	2	2	2	2	2	2	2	2	2	4	4
EMB autonomy	2	2	2	2	2	2	2	2	2	2	3	3	3
no forced labor, men	2	2	2	2	2	2	2	2	2	2	2	3	3
no forced labor, women	2	2	2	2	2	2	2	2	2	2	2	3	3
voting irregular	2	2	2	2	2	2	2	2	2	2	2	2	2
media bias	1	1	1	1	2	2	2	2	2	2	3	3	3
discussion, women	1	1	1	1	2	2	2	2	2	2	3	3	3
discussion, men	0	1	1	1	2	2	2	2	2	2	3	3	3
justice, women	1	1	1	1	2	2	2	2	2	2	2	2	2
election intimidation	1	1	1	1	1	1	1	2	2	2	2	3	3
election free/fair	1	1	1	1	1	1	1	2	2	2	2	3	3
civil society entry/exit	1	1	1	1	1	1	1	1	2	2	2	3	3
civil society repression	1	1	1	1	1	1	1	1	1	1	2	3	3
journalist harassment	1	1	1	1	1	1	1	1	1	2	2	2	2
justice, men	1	1	1	1	1	1	1	1	1	1	2	2	2
vote buying	1	1	1	1	1	1	1	1	1	1	1	2	2
media self-censorship	0	0	0	0	0	1	1	1	1	1	3	3	3
expression	0	0	0	0	1	1	1	1	1	1	2	3	3
no killings	0	0	0	0	1	1	1	1	1	1	1	3	3
no torture	0	0	0	0	1	1	1	1	1	1	1	2	2
media censorship	0	0	0	0	0	0	0	0	0	0	2	3	3

Panel (b)

indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
property, men	0	0	0	0	0	0	0	0	0	0	0	0	0
free religion	0	0	0	0	1	1	1	1	1	1	1	1	1
free foreign movement	0	0	0	0	0	0	0	0	0	0	1	1	1
free movement, men	0	0	0	0	0	0	0	0	0	0	1	1	1
free movement, women	0	0	0	0	0	0	0	0	0	0	1	1	1
voter registry	0	0	0	0	0	0	0	0	0	0	0	1	1
election violence	0	0	0	0	0	0	0	0	0	0	0	1	1
suffrage	0	0	0	0	0	0	0	0	0	0	0	0	0
EMB capacity	0	0	0	0	0	0	0	0	0	0	0	0	0
property, women	0	0	0	0	0	0	0	0	0	0	0	0	0
party barriers	0	0	0	0	0	1	1	1	1	1	2	2	2
media perspective	0	0	0	0	2	2	2	2	2	2	3	3	3
party ban	0	0	0	0	1	2	2	2	2	2	3	3	3
party autonomy	0	0	0	0	1	2	2	2	2	2	3	3	3
media critical	0	0	0	0	0	2	2	2	2	2	2	3	3
elections multiparty	0	0	0	0	0	0	0	0	0	0	0	2	2
EMB autonomy	0	0	0	0	0	0	0	0	0	0	1	1	1
no forced labor, men	0	0	0	0	0	0	0	0	0	0	0	1	1
no forced labor, women	0	0	0	0	0	0	0	0	0	0	0	1	1
voting irregular	0	0	0	0	0	0	0	0	0	0	0	0	0
media bias	0	0	0	0	1	1	1	1	1	1	2	2	2
discussion, women	0	0	0	0	1	1	1	1	1	1	2	2	2
discussion, men	0	1	1	1	2	2	2	2	2	2	3	3	3
justice, women	0	0	0	0	1	1	1	1	1	1	1	1	1
election intimidation	0	0	0	0	0	0	0	1	1	1	1	2	2
election free/fair	0	0	0	0	0	0	0	1	1	1	1	2	2
civil society entry/exit	0	0	0	0	0	0	0	0	1	1	1	2	2
civil society repression	0	0	0	0	0	0	0	0	0	0	1	2	2
journalist harassment	0	0	0	0	0	0	0	0	0	1	1	1	1
justice, men	0	0	0	0	0	0	0	0	0	0	1	1	1
vote buying	0	0	0	0	0	0	0	0	0	0	0	1	1
media self-censorship	0	0	0	0	0	1	1	1	1	1	3	3	3
expression	0	0	0	0	1	1	1	1	1	1	2	3	3
no killings	0	0	0	0	1	1	1	1	1	1	1	3	3
no torture	0	0	0	0	1	1	1	1	1	1	1	2	2
media censorship	0	0	0	0	0	0	0	0	0	0	2	3	3

Figure 3 provides a visualization of the first steps of the AOC methodology for one of the cases of interest in O'Donnell and Schmitter's (1986) seminal work: Brazil's democratization episode.[6] In the ERT data, the liberalization episode in Brazil began in 1975 and concluded in 1987, when Brazil transitioned to democracy. In the figure, panel (a) shows the original values of the 36 democracy indicators ordered from highest to lowest overall values. Panel (b) is recoded to reflect the amount of change in each variable in each episode year compared to the year preceding the episode onset. Across panels, darker shading represents relatively higher values. Following the above discussion, we omit the variables that did not change during the episode (variables colored white across a full row in panel (b)). Overall, Figure 3 reveals important variation in the amount that each indicator changes and the order in which they change: some aspects of democracy increase quickly, at the beginning of the episode (like freedom of discussion for men), and others improve only later (like reductions in vote buying and

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[6] Note that O'Donnell and Schmitter's (1986) book was released before Brazil's transition to democracy, so they characterize the case as ongoing liberalization.

election violence, in the final years of the episode), or not at all. This visualization suggests the need for systematic study of the sequence of institutional change during episodes of democratization. The AOC method is uniquely equipped to analyze this variation.

Percentage Tables

The third step in the AOC methodology involves creating one *percentage table* for *each* liberalization episode in the sample. This step utilizes the method developed by Lindenfors, Krusell, and Lindberg (2019) and later applied by Edgell et al. (2021), with the distinction that we compare indicators *within* liberalization episodes rather than *across* all liberalization episodes and analyze the change in indicators rather than the raw values. These adjustments carry important analytical benefits: we make inferences particular to episodes rather than aggregated data (as in Edgell et al. (2021)), and we evaluate how variables evolve rather than their raw values. Percentage tables compare every possible pair of variables, X and Y, across all of the variables included in the analysis. For each pair, the percentage table reports the percentage of observations within each liberalization episode in which one indicator is greater than (X>Y), equal to (X=Y), or less than (X<Y) the other. Because the data has already been converted to a matrix of change for each variable since the start of the episode, percentage tables showing that X>Y more than 50% of the time indicate that X has changed *before* and/or *more than* Y over the course of the episode. Continuing along in this way, the percentage tables compare all possible pairs of indicators for each of the 377 liberalizing episodes in the sample.

Chains

The AOC method next identifies longer *chains* of institutional change. This step is completed using a custom program to identify chains by the logic of an iterative tournament. The program first scans the percentage tables to establish the first link between two variables (A-B) in a chain. We set the threshold for this link such that variable A must be greater than variable B at least 50% of the episode in order to form a link. Having formed this first link, the program searchers for a second link B-C using the same criteria. Finally, the program also requires transitivity: A>B at least 50% of the time, B>C at least 50% of the time, *and* A>C at least 50% of the time. The program iterates through the percentage tables to find the total number of maximal chains, or the chains that cannot be extended any longer, in each liberalization episode. In the ERT data, these chains range from a length of 3 variables (A-B-C) to 7 variables (A-B-C-D-E-F-G). We aggregate the number of times each chain occurs to identify patterns across liberalization episodes.

Notably, the use of a threshold of 50% reflects our substantive interest. Variables appearing in earlier links in the chains changed either (1) earlier and/or (2) to a greater extent than variables appearing in later links in the chains. These two conditions are balanced against each other because the chains are

created by looking at an indicators' total change score over the course of each liberalization episode, and indicators generally improve over the course of the episode. For instance, an indicator that increased by 1 in the first year—and maintained this value throughout the episode—could come before an indicator that increased by 1 (and maintained this value) in the second half of the episode. Such a chain would indicate that the first indicator changed earlier than the second, though both changed by the same amount. Another chain might put the indicator that increased by 1 in the first year *after* an indicator that increased by 2 for the second half of the episode. The indicator that increased by 2 would be higher than the first indicator for more than half of the episode. This chain, in contrast to the other, would demonstrate that the first link changed *more* than the second link. Following this logic, it is important to also note that an indicator that changed *only* in the later half of an episode would never come before another indicator in a chain. Overall, the chains capture both early moving indicators and indicators with higher overall change in a balanced way, reflecting our theoretical interest.

Results

This section applies the AOC methodology to answer two questions about sequences of democratic development. First, which patterns of institutional changes are most common in terms of order and magnitude between different aspects of democracy? Second, are certain chains of institutional change associated with the outcome of liberalization episodes? To answer these questions, we evaluate chains in the sample of democratization episodes between 1900 and 2021 to (1) determine whether one theory holds more explanatory power than the other about the *typical* sequence of democratic development and (2) analyze the *association* between different chains and the outcome of democratization episodes. In the previous section, we described how we created chains using 36 indicators of liberal democracy. To facilitate analysis of the theories from Lindberg (2006) and O'Donnell and Schmitter (1986), this section presents results with variables grouped into three categories, as described in Table 1. These mutually exclusive categories are individual rights (I), associational rights (A), and elections (E). The analysis in this section thus involves categorizing each of the indicators in the chains according to their group.[7]

Sequences of Democratic Development, 1900-2021

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[7] Note that, after grouping the indicators, some of the chains feature repetition. For instance, there might be a chain coded as E-E-E, meaning that there was change *within* the category of elections, but not any change *across* the variable categories. We collapse such chains so that repeated categories are combined into one category and remove chains (as in the chain E-E-E mentioned above) in which there was no change across groups. After collapsing the data, chains range in length from 2 to 6 nodes.

First, we present results from the AOC method to understand the typical ordering of institutional development across democratization episodes. The AOC method yields numerous chains for most of these episodes. Because the analysis accounts for various aspects of democracy, many of which improve simultaneously, each episode can contain multiple chains. The empirical task is to determine whether the patterns of these chains converge to a typical ordering.

Figure 4 provides the first step in this direction. The six panels represent the different nodes in the chains. The gray points within each of these panels show, for each episode, the proportion of chains that had a node with a value in each of the categories: individual rights (I), associational rights (A), and elections (E). The darker diamonds average these values across all episodes, showing the average proportion of chains with a value in each of the categories for each node. A simple way to understand the results is to consider what one would observe if the chains were randomly distributed. By chance, one would expect the points to all fall around 33%: the distribution across categories would be about the same, with $\frac{1}{3}$ falling into each of the categories for each of the nodes. Actually, the observed patterns reveal a much different picture.

Figure 4. Proportion of Chains (by Episode) with Each Node Category
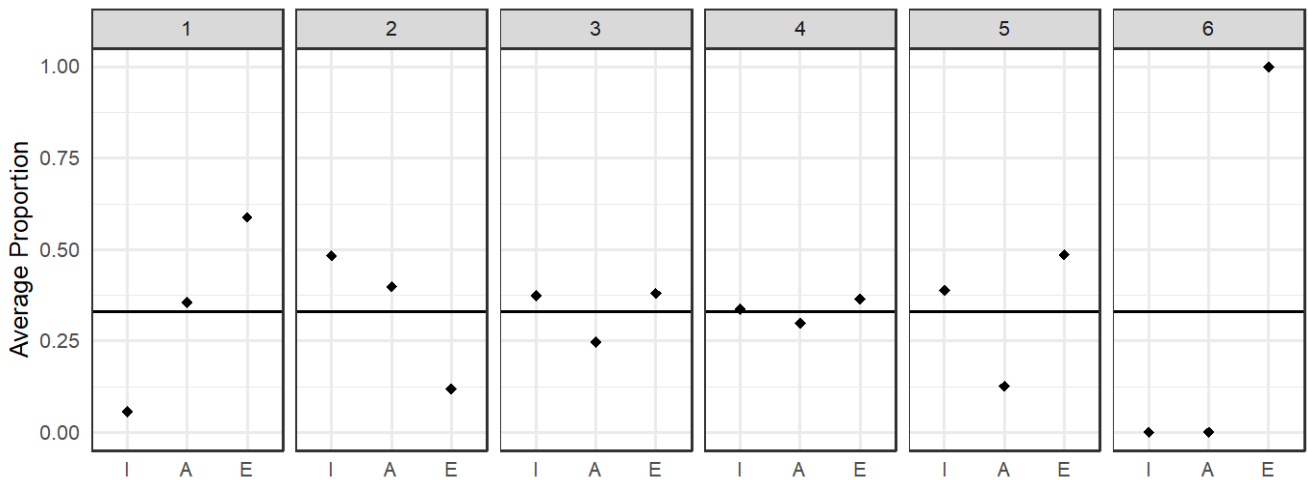
Notes: Jittered points show the proportion of chains for which the node falls into the given category: I (individual rights), A (associational rights), and E (elections), grouping by episode. The diamonds show the average proportion of chains (across episodes) falling in that category. The horizontal line at y = .33 shows the expected distribution if the order of values occurred by chance.

The most notable takeaway from Figure 4 is the overwhelming frequency with which elections are the first element of democracy to improve. Across episodes, an average of 59% of chains have elections as the first node in the sequence. Substantively, this means that indicators having to do with elections change *earlier* and *to a larger extent* than indicators in other categories. Again, recall that, if the chains were randomly distributed, the proportion of chains with elections falling in the first node would be around 33%. In other words, the observed proportion of chains with elections developing first is 26%

higher than would be expected by chance. This finding yields strong support for the theory proposed by Lindberg (2006), shown in Figure 2: elections are usually the first element of democracy to improve.

These results provide an important overview of the chains. Still, Figure 4 only shows the proportion of values in each node of the chains, but not the exact sequence of development from one node of the chain to the next. Another way to consider the results is to analyze the most common chains. There are 186 total possible chains.[8] Of these possible combinations, we observe 70 specific chain orderings. These chains are typically observed in > 1 episode and, because we have grouped the original indicators into three categories, > 1 time per episode. To find the most common chains, we find the total number of chains across all episodes and calculate the proportion of the total chains made up by any individual chain. Subsequently, we identified 17 specific chains that each accounted for at least 1% of the total chains. Grouped together, these 17 chains accounted for 98% of the observed chains in the data. Table 2 shows these common chains, the longest of which contained four nodes.[9]

Table 2. Most Common Chains Across Liberalization Episodes

	1	2	3	4	Prop. Total	Prop. Success	Prop. Failed	Category
1	Elections	Assoc. Rights	Ind. Rights		0.2	0.36	0.61	Lindberg
2	Elections	Ind. Rights			0.18	0.33	0.64	Lindberg
3	Elections	Assoc. Rights			0.18	0.31	0.68	Lindberg
4	Elections	Ind. Rights	Assoc. Rights		0.05	0.37	0.62	Lindberg
5	Elections	Assoc. Rights	Elections		0.01	0.27	0.73	Lindberg
6	Elections	Ind. Rights	Elections		0.01	0.41	0.59	Lindberg
7	Elections	Assoc. Rights	Ind. Rights	Assoc. Rights	0.01	0.41	0.59	Lindberg
8	Elections	Assoc. Rights	Elections	Ind. Rights	0.01	0.43	0.54	Lindberg
9	Ind. Rights	Assoc. Rights	Elections		0.01	0.42	0.53	OS
10	Assoc. Rights	Ind. Rights	Elections		0.16	0.4	0.59	Other
11	Assoc. Rights	Elections			0.06	0.36	0.63	Other
12	Assoc. Rights	Ind. Rights			0.05	0.39	0.57	Other
13	Assoc. Rights	Ind. Rights	Assoc. Rights	Elections	0.01	0.35	0.65	Other
14	Ind. Rights	Assoc. Rights	Ind. Rights	Elections	0.01	0.43	0.57	Other
15	Ind. Rights	Elections			0.01	0.4	0.55	Other
16	Assoc. Rights	Elections	Ind. Rights		0.01	0.33	0.6	Other
17	Assoc. Rights	Elections	Ind. Rights	Elections	0.01	0.53	0.47	Other

Notes: List of chains that appear in at least 1% of all chains in the ERT data. The first columns show the category of variable that occupies each node of the chain. *Prop. Total* lists the proportion of total chains, *Prop. Success* the proportion of this particular chain that ended in success, and *Prop. Failed* the proportion of this particular chain that ended in failure. *Category* categorizes the chains according to the theories of interest.

For each of the 17 most common chains, Table 2 shows the frequency of each chain as a proportion of the *total* chains (*Prop. Total*). It also shows, for each particular chain ordering, the proportion in successful democratization episodes (*Prop. Success*), and the proportion in failed democratization

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[8] In the Appendix, we explain how to calculate the number of possible chain orderings.
[9] Another way of identifying the most common chains is to evaluate which chains occur in the most *episodes*, regardless of how many times they are repeated across and within episodes. Table A2 shows the chains that appear at least once in at least 5% of the episodes. The results are substantively similar.

episodes (*Prop. Failed*).[10] The column *Category* shows whether each chains matches with the theory in Lindberg (2006) (elections come first), O'Donnell and Schmitter (1986) (individual rights come first, then associational rights, then elections). Again in support of Lindberg (2006), and reflecting further the results in Figure 4, the results shows that the chains that occurred the most frequently featured elections as the first element of democracy to improve.

The three most common chains (elections - associational rights - individual rights; elections - individual rights; elections - associational rights) all featured elections as the first node and made up at least 18% of the total chains. This figure is substantial in comparison to the expected frequency of chains if chains were random. In a random distribution, an particular chain would be observed only 0.5% of the time.[11] In other words, these three chains occur much more regularly than would be expected by chance. Overall, the total proportion of chains that match Lindberg's (2006) theory is 68% of all chains, far exceeding the expectation that 33% of chains would begin with elections.

While most of the chains match the theory proposed by Lindberg (2006), there is little support for the ordering proposed by O'Donnell and Schmitter (1986). Chains reflecting this ordering would occur 8.3% of the time by chance.[12] However, this ordering occurs *less* frequently than would be expected in a random distribution: only 1% of the total chains have their first three nodes follow this pattern. So, even though we would expect chains following O'Donnell and Schmitter's (1986) theory to be more rare than those following Lindberg's (2006) theory (8.3% versus 33.3% by random chance), chains following O'Donnell and Schmitter (1986) fall below even the expectations of a random distribution.

We might also consider less restrictive interpretations of O'Donnell and Schmitter's (1986) theory. Their research recognizes wide variation in the early stages of liberalization, but it is clear that the development of competitive elections is the last stage in democratization processes. Thus, another way to evaluate the theory is to determine the frequency of chains in which elections were the *last* component of democracy to develop. In a random distribution, we would expect 33.3% of chains to match this pattern. Yet again, however, the proportion of chains fitting this expectation is lower than would be observed randomly: only 28.4% of all chains feature elections in the final node.

Overall, the weight of this descriptive evidence lends support for the expectations of Lindberg (2006). In the majority of all chains, elections are the first element of democracy to develop. Though there are certainly alternative pathways through which democratization unfolds (for instance, the common

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[10] For some of the chains, the sum of the proportion of successful and failed chains does not sum to 1. This is due to the presence of some chains in censored democratization episodes, which are not included.

[11] An even distribution of the 186 possible chains (1/186).

[12] There is 1/3 probability of the first node being individual rights $* \frac{1}{2}$ probability the following node being associational rights (since there cannot be neighboring nodes with the same category) $* \frac{1}{2}$ probability the following node being elections $= \frac{1}{12} =$ 8.3%.

sequence of associational rights - individual rights - elections), these are far rarer than the sequences beginning with elections, and they offer little support for the theory developed by O'Donnell and Schmitter (1986).

Chains and Episode Outcomes

Having established that elections are the most common element to change first across democratization episodes, this section evaluates whether a particular ordering is associated with a higher likelihood of successful transition to democracy. Turning back to Table 2, there seems to be only limited evidence that the most common chains vary across successful and failed episodes. For instance, the most common chain in the data (elections - associational rights - individual rights) is far more often associated with failed democratization (61% of these chains) than success (36% of these chains). Figure 5 investigates further the general variation across the categories and outcomes of interest. On the x-axis are the different categories of chains and the y-axis shows the proportion of total chains falling into each theoretical category and episode outcome. Here is it again evident that the expected sequence in Lindberg (2006) is the most common, and the expected sequence in O'Donnell and Schmitter (1986) is exceedingly rare. However, while the latter sequence is about evenly distributed across successful and failed outcomes, Lindberg's (2006) sequence occurs more often in failed episodes compared to successful episodes.[13]

Of course, this distribution could be a function of the overall frequency of the two outcome categories: failure is more common (62% of episodes) than success. Table 3 thus demonstrates the distribution of values in a more systematic way. In the rows are the possible outcomes of the episodes and the columns are the categories of chains. The cells represent the column percentages. Comparison across rows provides a simple test of the hypothesis that a particular ordering might be associated with a higher or lower likelihood of episode success.

Interestingly, the results provide some support for O'Donnell and Schmitter's (1986) theory: even though this ordering is exceedingly rare, it is more common in successful cases compared to all of the other categories. Further, the ordering where elections develop first is disproportionately distributed among the failing cases. Table A1 replicates this table with the additional category of associational rights - individual rights - elections, which is one of the most common chains. Even

Figure 5. Proportion of Chains (Total) by Theory and Outcome

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[13] Figure A1 replicates this result with the additional category of associational rights - individual rights - elections.
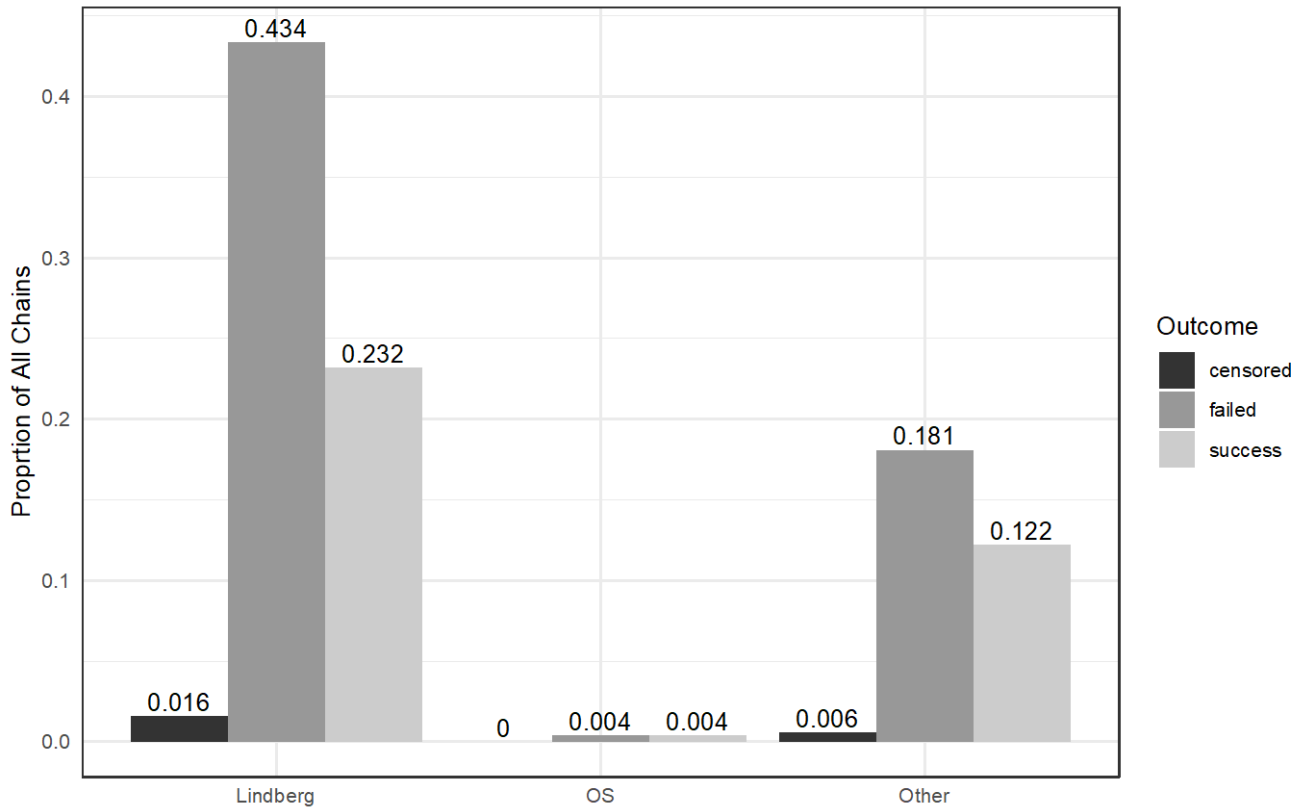
Notes: Proportion of total liberalization chains in each theory (x-axis) and outcome (color) category. Chains are coded as matching the theory in Lindberg, 2006 if the first category belongs to the category Elections. Chains are coded as matching the theory in O'Donnell and Schmitter, 1986 if the first three variables in the chain belong to the categories Individual Rights, Associational Rights, and then Elections. All other orderings are coded as Other.

Table 3. Chains by Theory and Outcome

	Lindberg	OS	Other	Total
Success	34.01%	42.22%	39.47%	35.77%
Failed	63.63%	52.54%	58.55%	61.96%
Censored	2.36%	5.24%	1.98%	2.27%
Total	100%	100%	100%	100%

Notes: Columns percentages for all chains across liberalization episodes by episode outcome (rows) and theoretical framework (columns). Chains are coded as matching the theory in Lindberg, 2006 if the first category belongs to the category *Elections*. Chains are coded as matching the theory in O'Donnell and Schmitter, 1986 if the first three variables in the chain belong to the categories *Individual Rights*, *Associational Rights*, and then *Elections*. All other orderings are coded as *Other*.

when accounting for this additional category, O'Donnell and Schmitter's (1986) ordering is the most commonly associated with success.

Nevertheless, the evidence for the relationship between chains and episode outcome is not very robust. Looking at the data another way—by proportions within episode, rather than total proportions—it is clear that the distribution of categories across nodes is quite similar. Figure 6 replicates Figure 4 but breaks the results by episode outcomes: successful (upper panel) and failed (lower panel). Here the average proportion of chains in each episode node is quite similar: elections are overwhelmingly the most common element to change across episodes with both types of outcomes.

Figure 6. Proportion of Chains (by Episode) with Each Node Category, by Outcome
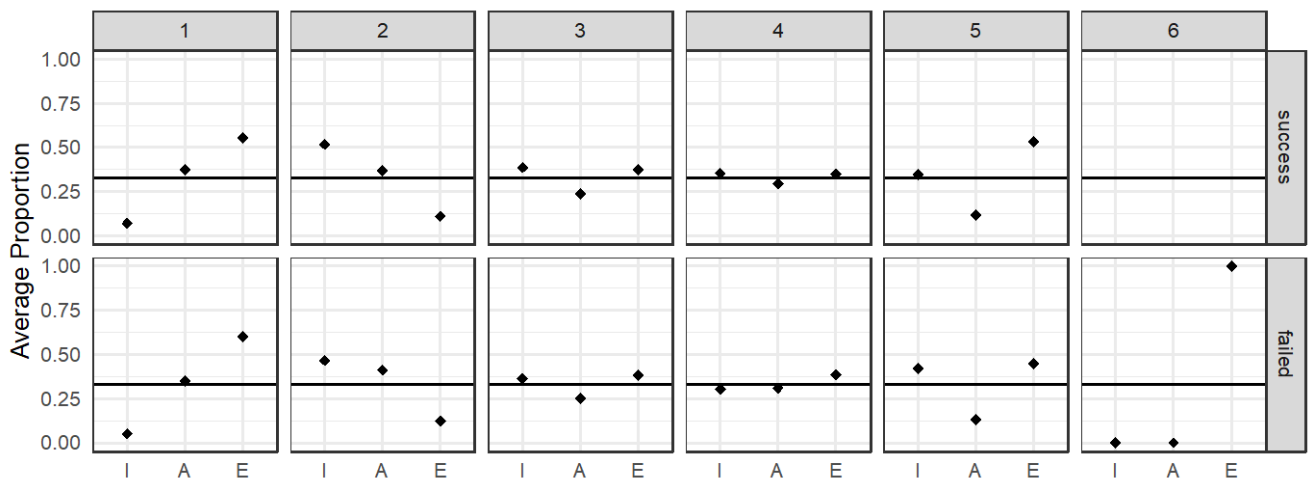
Notes: Jittered points show the proportion of chains for which the node falls into the given category: I (individual rights), A (associational rights), and E (elections), grouping by episode. The diamonds show the average proportion of chains (across episodes) falling in that category. The horizontal line at y = .33 shows the expected distribution if the order of values occurred by chance. The top figure plots the results for cases that transitioned to democracy (success) while the bottom figure plots the results for episodes that did not transition (failed).

Overall, the results from the AOC method provide clear support for the suggested ordering in Lindberg (2006): elections are the aspect of democracy that developed earliest and to a greater extent than other categories of democracy. This finding holds when considering variation within and across 377 episodes of democratization from 1900 to 2021. This finding lends the first systematic insight into the lengthy order of democratization across multiple aspects and over time. What is less clear is whether this ordering as a relationship with the outcome of democratization episodes. Across both successful and failed episodes, elections are the most common element of democracy to develop first, though there is some evidence that early development of elections might have be more often associated with failed democratization than successful transition to democracy (Table 3). The broader picture that emerges from this analysis is that, while improvement of elections might be enough to *initiate*

democratization episodes, it is likely not sufficient to result in the termination of the episode with successful transition to democracy.

Conclusion

This paper presents a novel methodology, analysis of chains (AOC), to analyze sequences of institutional development during episodes of democratization. A long literature exists to evaluate the conditions that facilitate transitions to democracy, mainly focusing on structural correlates of successful transition. Our research instead turns attention to the *process* of institutional development. Following seminal transitology research from O'Donnell and Schmitter (1986) and Lindberg (2006), we outline two competing theories for how democratization is likely to unfold. First, as O'Donnell and Schmitter (1986) predict, it could be that individual rights develop first, followed by protections for association, and then the development of electoral institutions. In contrast, following Lindberg (2006), it may be that early development of electoral institutions can propel liberalization. The AOC methodology captures this institutional ordering by examining which indicators of liberal democracy developed earlier or later during episodes of democratization.

In support of theories of democratization by elections, the analysis across all waves of democratization shows that the most common democracy indicators to develop first were elections. While these results should not be taken to dismiss the seminal work by O'Donnell and Schmitter (1986), they do provide more evidence in favor of the idea that elections most *commonly* develop earlier during liberalization periods. The AOC approach is pivotal in allowing for a systematic evaluation of these two theories. In this first use of the method, our results lend support to the idea that elections are early movers in liberalization sequences. However, and critically, we do not find that the early development of elections is correlated with the *outcome* of liberalization episodes: it is not the case that episodes with the early development of elections are more likely to successfully transition to democracy.

Overall, we interpret the findings to show that one major hurdle to the path of democratization is the onset of liberalization. For countries that reach this critical juncture, the development of electoral institutions seems to be critical to continued progress. However, electoral improvements do not seem to cement successful transition to full democracy. To further explore these intriguing findings, future research can utilize the AOC method to evaluate whether there are other chains that are uniquely equipped to put countries on the path to successful transition. Further, the AOC methodology can be used to evaluate whether there are specific types of electoral institutions that must develop earlier to facilitate successful transition.

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Online Appendix

Definition of episodes of regime change: Episode classification in the ERT data is based on several criteria. First, there must be an initial change of +/- 0.01 (*start inclusion*) followed by an overall change of at least +/− 0.10 (*cumulative inclusion*) on the electoral democracy index (EDI) over the duration of the episode. The episode terminates if (1) the EDI score has stasis or movement in the opposite direction for five years (*tolerance*), (2) there is a reverse annual change of 0.03 or greater in one year (*annual turn*), or (3) there is a cumulative reverse change of 0.01 or greater over a five-year period (*cumulative turn*). The final year of the episode is the year there was a change of at least +/- 0.01 after episode onset and immediately prior to one of the three conditions for termination. Please see Edgell et al. (2022) and Maerz et al. (2023) for more details and descriptive information about the episodes.

Classification of democracy indicators: From the full liberal democracy index in V-Dem, we omit the indicators having to do with equality before the law (v2clrspct, v2cltrnslw), the elected officials index (v2x elecoff) and the judicial and legislative constraints on the executive indices (v2x jucon, v2x legcon), since they are not discussed in the theoretical frameworks we evaluate. In three instances, we group indicators outside of their categorization in the V-Dem indices to better fit with the theoretical frameworks in Lindberg (2006) and O'Donnell and Schmitter (1986): discussion for men and women belong to the index for freedom of expression, but we consider these individual rights; multiparty elections belongs to the index for freedom of association, but we consider this an election-related variable. Finally, to facilitate comparison, we fill forward indicators that are coded only in election years so that subsequent years take on the value of the most recent election. The exception to this rule is when the country is not an electoral regime (v2x elecreg == 0), in which case the election-related variables are coded as 0. We also transform some variables so that all indicators are measured on an ordinal scale from zero (least democratic) to four (most democratic). Specifically, we rescale suffrage by quintiles, three media variables by rounding up higher values, and the variables measuring property rights for men and women by combining two middle categories.

Possible chain orders: The number of possible chains is calculated by considering the different potential orderings for each of the chain lengths. For chains of length 6, there are 96 possible orderings (3*2*2*2*2*2): the first node can belong to one of three categories and, because the categories cannot repeat, each subsequent node can belong to one of two categories. Similarly, there are 48 possible orderings for chains of length 5 (3*2*2*2*2), 24 for chains of length 4 (3*2*2*2), 12 for chains of length three (3*2*2) and 6 for chains of length two (3*2). Adding these possibilities together yields 186 possible chain orderings.

Table A1. Chains by Theory and Outcome - ALTERNATIVE

	Lindberg	OS	AIE	Other	Total
Success	34.01%	42.22%	39.66%	39.27%	35.04%
Failed	63.63%	52.54%	58.62%	58.47%	62.59%
Censored	2.36%	5.24%	1.72%	2.25%	2.37%
Total	100%	100%	100%	100%	100%

Notes: Columns percentages for all chains in the ERT data by episode outcome (rows) and theoretical framework (columns). Chains are coded as matching the theory in Lindberg (2006) if the first category belongs to the category *Elections*. Chains are coded as matching the theory in O'Donnell and Schmitter (1986) if the first three variables in the chain belong to the categories *Individual Rights*, *Associational Rights*, and then *Elections*. Chains are coded as "AIE" if they follow the pattern *Associational Rights*, *Individual Rights*, and then *Elections*. All other orderings are coded as *Other*.

Figure A1. Proportion of Chains (Total) by Theory and Outcome - ALTERNATIVE
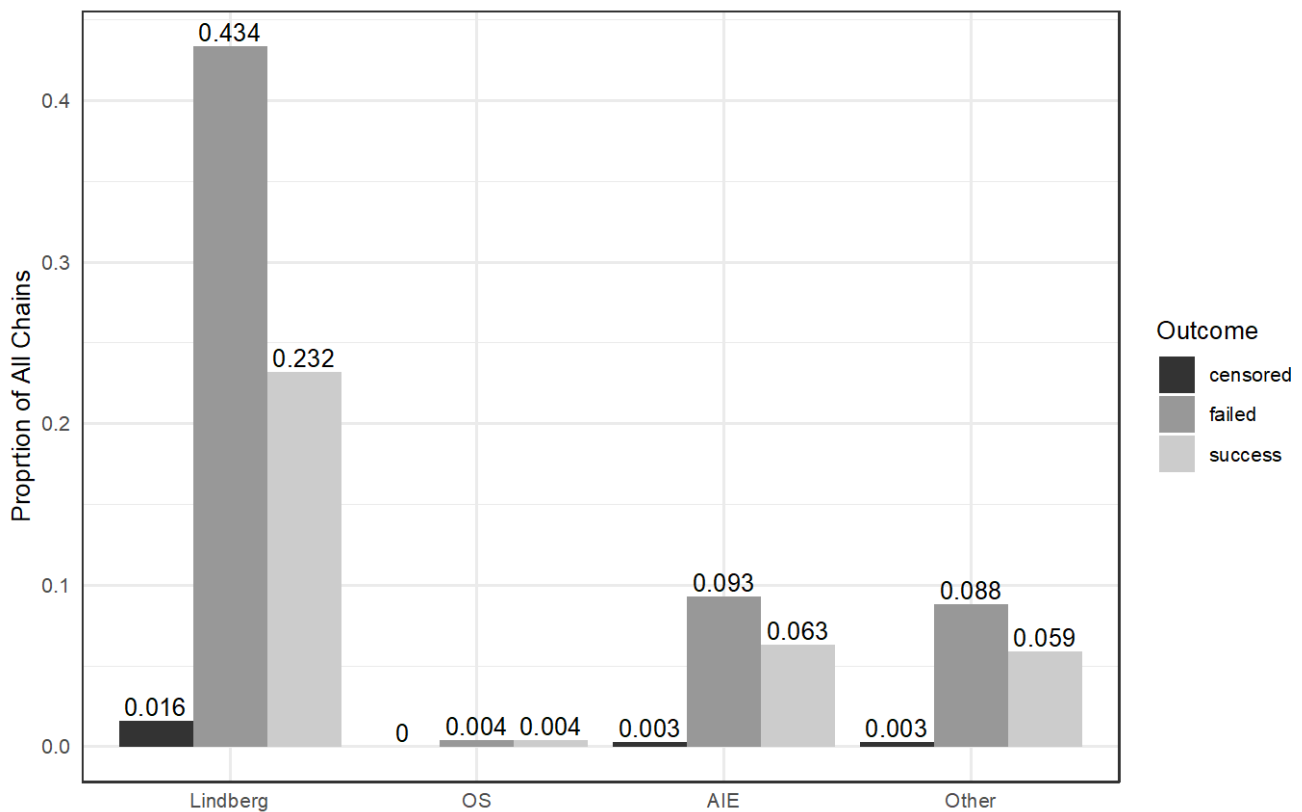
Notes: Proportion of total ERT chains in each theory (x-axis) and outcome (color) category. Chains are coded as matching the theory in Lindberg (2006) if the first category belongs to the category *Elections*. Chains are coded as matching the theory in O'Donnell and Schmitter (1986) if the first three variables in the chain belong to the categories *Individual Rights*, *Associational Rights*, and then *Elections*. Chains are coded as "AIE" if the first three variables in the chain belong to the categories *Associational Rights*, *Individual Rights*, and then *Elections*. All other orderings are coded as *Other*.

Table A2. Chains Occurring in the Most Liberalization Episodes

	1	2	3	4	Prop. Total Eps.	Prop. Success Eps.	Prop. Failed Eps.	Category
1	Elections	Assoc. Rights			0.29	0.09	0.2	Lindberg
2	Elections	Ind. Rights			0.27	0.09	0.17	Lindberg
3	Elections	Assoc. Rights	Ind. Rights		0.18	0.06	0.11	Lindberg
4	Elections	Ind. Rights	Assoc. Rights		0.17	0.06	0.1	Lindberg
5	Elections	Assoc. Rights	Elections		0.14	0.04	0.1	Lindberg
6	Elections	Ind. Rights	Elections		0.1	0.04	0.06	Lindberg
7	Elections	Assoc. Rights	Elections	Ind. Rights	0.07	0.03	0.04	Lindberg
8	Elections	Assoc. Rights	Ind. Rights	Assoc. Rights	0.06	0.02	0.03	Lindberg
9	Elections	Assoc. Rights	Elections	Assoc. Rights	0.06	0.02	0.04	Lindberg
10	Elections	Ind. Rights	Assoc. Rights	Ind. Rights	0.05	0.02	0.03	Lindberg
11	Ind. Rights	Assoc. Rights	Elections		0.05	0.02	0.03	OS
12	Assoc. Rights	Elections			0.19	0.07	0.12	Other
13	Assoc. Rights	Ind. Rights			0.16	0.06	0.09	Other
14	Assoc. Rights	Ind. Rights	Elections		0.15	0.06	0.09	Other
15	Assoc. Rights	Ind. Rights	Assoc. Rights		0.09	0.05	0.04	Other
16	Assoc. Rights	Elections	Ind. Rights		0.08	0.03	0.05	Other
17	Assoc. Rights	Elections	Assoc. Rights		0.07	0.02	0.04	Other
18	Assoc. Rights	Ind. Rights	Assoc. Rights	Elections	0.05	0.02	0.03	Other
19	Ind. Rights	Elections			0.05	0.02	0.03	Other
20	Ind. Rights	Assoc. Rights	Ind. Rights		0.05	0.03	0.02	Other
21	Assoc. Rights	Elections	Assoc. Rights	Elections	0.05	0.02	0.02	Other
22	Assoc. Rights	Elections	Ind. Rights	Elections	0.05	0.02	0.02	Other

Notes: List of chains that appear at least once in at least 5% of all liberalization episodes in the ERT data. The first columns show the category of variable that occupies each node of the chain. *Prop. Total* lists the proportion of total episodes in which this chain appears at least one time, *Prop. Success* the proportion of total successful episodes in which this chain appeared at least once, and *Prop. Failed* the proportion total failed episodes in which this chain appeared at least once. *Category* categorizes the chains according to the theories of interest.