Are Political Parties Caught in an Evolutionary Mismatch?  Mobilization, Elections and Representation in Global Perspective

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Introduction: Is representation evolving?
The emergence of political parties and systems of representation marks a major transition in the evolution of human cooperation. From undemocratic single party-state systems, to the seemingly chaotic fragmentation of some multi-party systems, parties have dominated the last century of politics around the globe. Like other major evolutionary transitions, party systems channel the benefits of cooperative behavior from lower to higher, more complex forms of organization. All of the large-scale political systems of the 20th century, and much of modern civilization, are unthinkable in the absence of institutions of representation.

Parties and party systems enhance cooperation in a number of ways. Representative institutions down-regulate violent conflict, channeling competition into rituals that legitimate political authority. These rituals range from ceremonial performances intended to enforce obedience, to elite recruitment and highly competitive elections. In turn, legitimacy and the stability it creates favor the differentiation and specialization of political labor, as well as high-fidelity transmission of aggregate preferences and political inputs. It is not enough to secure control over coercive force; selective pressures have created party organizations that excel at anticipating, informing and mobilizing publics to support policy development and implementation.

In doing so, parties ideologically orient citizens toward support/rejection of collective strategies. One-party states reinforce support for status quo policies and
coordinate the acceptance of policy change. Two-party or dominant bloc systems typically offer choices to voters along a broad Left-Right continuum. Multi-party electoral campaigns mobilize citizens along several cleavages simultaneously, with parties competing to define salient Left-Right positions in electoral cycles.

Political scientists now acknowledge that the rise of large-scale party politics in Europe and North America was, in the words of scholar Susan Scarrow, “one of the transforming inventions” of the 19th century. Then, and throughout the 20th century, parties have emerged as the primary mechanism of representation where there is an expansion in the politically active population and/or a transition toward legislative rule. The number of party systems has increased from a handful in 1900, to nearly every large-scale political system today. Once the most popular form of government, only four or five absolute monarchies survive today.

The historical development of parties, and the expansion of popular sovereignty through democratic representation, can be largely understood as a selective adaptation against parasitism, or cheating leaders, much in the same way that biologists understand the evolution of sexual selection. In standard diploid genetics, each gamete of an individual holds either paternal or maternal genetic information. “Rogue” genes can improve their odds of reproductive success by manipulating their probability of transmission at the expense of other genes.

This manipulation, meiotic drive, is checked by the “bureaucracy” of meiosis, which ensures that there is an equal opportunity for paternal or maternal alleles to get into a successful gamete. The suppression of meiotic drive through
randomization of transmission success is probably favored by natural selection because it reduces the potentially damaging effects associated with the spread of “driving” chromosomes\textsuperscript{23} In this sense, Leigh’s metaphor of “a parliament of genes” that prevents the “cabals of a few” from exploiting the whole might have been more aptly called the party system of genes.\textsuperscript{4} Party systems typically grow out of parasitic conditions to expand opportunities for political expression.

However, there is also increasing recognition that the political environment that has led to the proliferation of party governments is changing. As one group of democratic party scholars recently put it: “Like struggling ducks in an ever-faster downstream current, they are working harder just to keep still.”\textsuperscript{5} Fans of the electoral systems pioneer Charles Dodgson and students of evolution should recognize this as a take on the Red Queen Hypothesis. This co-evolutionary hypothesis, which states that continuing adaptation is necessary if species are to retain their relative fitness within systems they are co-evolving with, takes it’s name from the Red Queen’s race in (Dodgson’s) Lewis Carroll’s Through the Looking Glass:

"Well, in our country," said Alice, still panting a little, "you’d generally get to somewhere else — if you run very fast for a long time, as we've been doing."

"A slow sort of country!" said the Queen. "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"\textsuperscript{6}
Within comparative politics, scholars have demonstrated what many believe to be the decline of party strength, at least in western democracies: the erosion of psychological party attachments; increasing fragmentation of political identities and the incapacity (or unwillingness?) of parties to mobilize citizens; the emergence of non-party actors seeking to influence electoral and policy making processes; and the increasing reliance of parties on elite (state and corporate) resources to sustain their activities.\(^7\)\(^8\)\(^9\)

While there is plenty of evidence that the relationship between parties and citizens is evolving, it is not clear that parties are under threat of extinction any time soon. There are several possible trajectories that parties and party systems might be taking. Established party systems may well be in the process of strengthening their capacity for long-term survival by reducing their dependence on broad public support, as long as they can continue to dictate policy options. Scholars of legislative studies have provided examples of party leadership being strengthened through greater homogeneity in membership and manipulation of electoral and administrative procedures, at least in many “advanced” democracies.\(^10\)\(^11\)

Alternatively, recent adaptations could reflect all the running parties can do, just to stay in place. This is essentially the conclusion of Russell Dalton, David Farrell, Ian McAllister and many of their colleagues who have produced the
excellent Comparative Study of Electoral Systems series. In *Political Parties and Democratic Linkage*, Dalton and colleagues determine that:

“Parties are strategic actors, surveying the political landscape, evaluating threats, and responding in such a way as to resolve them...They constantly seek new ways to perpetuate their influence on voters and policy outcomes...parties constantly evolve and adapt in order to survive or they emerge in new forms; they are here for the long haul.”

These authors and others in the field have shown that parties successfully adopt advances in communications technology, effectively manipulate the “rules of game,” especially with regard to representative institutions and campaign finance, and in some cases make dramatic policy shifts in order secure demographic bases of support. However, it is less clear how sustainable these adaptations are, given the direction of environmental change within which parties must survive. Even if party systems have proven to be adaptive, we still face the task of trying to determine whether we are witnessing selective adaptation, benign institutional drift, or some sort of maladaptation.

In order to better evaluate the nature of adaptations in representative institutions, I draw on the evolutionary mismatch hypothesis. The idea of an evolutionary mismatch refers to the environment to which an evolved mechanism is adapted, or its *environment of evolutionary adaptedness.* If an organism’s
environment changes faster than its ability to adapt, it will increasingly find itself “mismatched” to that environment. Under the limits of phenotypic plasticity (the range of possible expressions available to a giving mechanism), organisms must do the best they can with the traits they do possess. Evidence of mismatch in human affairs ranges from useless body parts to our partiality for sugars and fats, and possibly certain biological and mental disorders.

Which features of political environments are radically different than those in which large-scale political parties have traditionally thrived? If parties and party systems emerge as successful mechanisms for down-regulating intra-group conflict, coordinating cooperative behavior and facilitating collective action, then our focus should be on changes in population characteristics that enable these functions. The most popular suspect involves the capacity for populations to process political information and coordinate behavior at the individual, and the most popular hypothesis in political science on this subject is cognitive mobilization (CM).

Dalton and other proponents of CM take an adaptationist perspective in arguing that party organizations reduce cognitive load by processing signals and reducing the complexity of the political environment, thereby enabling citizens to coordinate collective action through partisan attachments. However, as educational attainment levels increase (improving information processing capacity) and mass media expands (reducing information costs), citizens are less dependent on partisan mechanisms, instead becoming “cognitively mobilized” and more effective political agents. In essence, the hypothesis states that cognitive
mobilization has selective advantages over partisan mobilization, namely more effective participatory rewards and less agency loss for those with the cognitive capacity to engage in more demanding activities. While the CM hypothesis has received substantial criticism\textsuperscript{1617}, it remains the broadest and most widely accepted thesis of party decline in comparative politics.

This analysis of party system evolution proceeds as follows: In the next section, I model institutions of representation based on the logic of bounds and the evolutionary principle that cooperation is induced through down-regulation of conflict. I then evaluate the fitness of a variety of systems in terms of ideological orientations and party support, controlling for differences in cognitive mobilization. Next, I examine historical instances of adaptation to look for evidence about how party systems are reacting to environmental change. Finally, I explore the extent to which party polarization, another trend of general concern, interacts with cognitive mobilization and is linked to system fitness.

\textit{From selectorates to electorates: instruments of representation}

Logically, the greatest concentration of authority in a community of $P$ persons occurs where one person, or $1/P$ constitutes the system of representation, $R$. Claims of absolute monarchs notwithstanding, this is the least representative system of collective decision making. While very efficient in exploiting available information, such a system is also clearly the most vulnerable to parasitism.

At either extreme, where $R = 1$ or $R = P$, we reach the boundaries of the “explore-exploit” dilemma that Scott Page describes as a fundamental trade off in
all decision-making.\textsuperscript{18} As $R$ approaches $P$ and everyone is there own representative, exploration and coordination costs bias policy selection in the direction of the status quo (and those who favor it). When $R < P$, political equality is optimized when the share of representation available each citizen, $p_i = p_2 \ldots p_n$, and coordination costs are minimized.\textsuperscript{19}

Empirically, I create a measure of representative systems using variables for every country with data from the Quality of Government cross-sectional data set.\textsuperscript{20} Several indicators that capture the existence, authority and size of national assemblies, restrictions on voting rights, the press and party competition, as well as district magnitude and electoral thresholds (described in detail in appendix A) are joined to create a single parameter, $R$, with a possible range of 1 to 10+$P$. The log of this measure is then weighted down using the number of years of competitive elections for each country (over the last thirty) to try and better capture the long-term differences between types of representative systems. Weighting results in some countries with a value below one.

Adopting a global perspective on party systems and their role in political representation requires us to expand beyond Sartori’s\textsuperscript{21} minimal definition of a party as "any political group identified by an official label that presents at elections" and move to Janda’s\textsuperscript{22} “organization that pursues a goal of placing its avowed representatives in government positions.” At the risk of losing some conceptual precision, we stand to gain considerable theoretical coherence and understanding of how human cooperation evolves.
Following conventional electoral research, there is a strong association between the “permissiveness” of representation systems and the effective number of parties (actual number of parties weighted by vote share, or if no elections, number of legislative parties) in a given political system. Closed systems tend to have a single party or only token opposition, while five to six effective parties regularly compete in the more permissive systems. Figure 1 illustrates the linkage for all countries with available data.

Figure 1

Notable outliers include Bhutan, Russia and Ukraine. The monarchy of Bhutan created a general council in 1999 but did not hold elections until 2008, in which only two parties competed, reflecting a system still in transition. The post-communist systems of Russia (where 168 parties exist as of 2012) and the Ukraine have run through several electoral cycles since democratization in the 1990’s, but they still reflect a deep-seated aversion to parties, and an attraction to personality-driven campaigns. Conversely, the Nelson Mandella’s African National Congress party has retained a dominate position even in South Africa’s permissive system.

On the high end of representation, Israel and The Netherlands have two of the world’s purest examples of proportional representation, with single electoral districts that compose their entire lower assemblies (120 and 150 seats, respectively) and low electoral thresholds. Consequently, their party systems are
fragmented, although in both cases there exist dominant party blocs that regularly make up their governing coalitions.

Party systems have been growing over the last few decades, in both numbers and size. Figure 2 displays the number of legislative elections held from 1960-2000, showing that through the 1980’s and 1990’s, after the rise of electoral competition in Africa and the fall of communist regimes in Eastern Europe, the average number of elections per year basically doubled. Of course, not all of these elections would meet contemporary standards of democratic responsiveness, but it is clear that both low and high representation party systems have grown. Elections where \( R < 1.8 \) were less frequent until the late 1980’s, when they began catching up with high \( R \) systems.

Figure 2

Although it is difficult to tease out cause and effect in cases of electoral reform and party system fragmentation, the general consensus is that electoral reform is precipitated by changes in the relative strength of dominant parties, which often leads to further alterations in party system composition. Figure 3 demonstrates that while party system fragmentation has expanded across all types of systems, this has been especially true under low \( R \) systems, and it is not simply a result of reformers adopting large district magnitudes. The first two columns show average district magnitude (the average number of seats contested in an electoral district) for the elections held in specific decades.
Over the last few decades, more countries with low magnitude systems have been coming online, reducing the average district magnitude in low R systems. Nevertheless, the effective number of parties (column three) has increased considerably, reflecting in many cases a release of electoral pressure in the move away from authoritarianism, and a period of hyper-fragmentation before the equilibrilating effects of the electoral system take hold. High R systems have also experienced an increase in party system fragmentation, but the effects are dampened due to the presence of many established democracies in this group.

A view of the changes in average district magnitude over time might lead one to conclude that there has been a growth in majoritarian or plurality electoral systems, but that is not the case. Some of the oldest electoral systems in the world, namely the United Kingdom and its colonial offspring, have retained systems like FPTP (first past the post), where parties need only a plurality vote to win in a single member district. But the period from 1993-2004 was one of the busiest in terms of electoral reform, and the direction of reform was decidedly toward more proportional representation, as Figure 4 illustrates.

Figure 4 displays the percentage of electoral systems, out of 191 countries that changed from one classification to another during this time period. The overall pattern confirms that the vast majority of countries retained their systems even in an era of instability. But of the systems that did change, the largest shift was away from FPTP and toward some form of mixed proportional system (preferential voting,
compensatory seats, etc.) or all the way over to List PR, where voters choose from party lists in multi-member districts. The move to mixed systems also explains part of the reduction in average district magnitude in high R systems, suggestive of a sort of fine tuning of electoral systems.

So far, then, the pattern of party system evolution seems clear: new party systems have been spreading across the globe, and established party systems have become more representative. Overall, it appears that conditions for robust, competitive party systems have improved, and there is little evidence of mismatch. At the same time, readers might be cautious about the increased fragmentation, especially in established, high R, competitive systems. Does this indicate an environmental change that is breaking down parties’ coordinating capacity?

**Cognitive mobilization and party system fitness**

To help answer this question, I utilize data from the World Values Surveys, which includes responses to questions of interest from representative samples in 83 countries. In the first test of the cognitive mobilization hypothesis, we examine how CM conditions Left-Right orientations across the range of representative systems.

The capacity for individuals to place themselves along a single Left-Right dimension is a useful cross-national metric for assessing integration into a party system. On the one hand, the political left and right mean different things to different people. The left in San Francisco, California might refer to gay rights and environmental protection, while in Milwaukee, Wisconsin it is more likely to refer
to labor issues or public health programs. Similarly, Left-Right orientations are more likely to reflect economic and class differences in western democracies, whereas in Latin America and East Asia, the Left-Right dimension taps more into religious orientations, national identity and democratic aspirations.24

On the other hand, these differences in meaning reflect the transcendent nature of a dimension that reflects the long-term cleavages that structure party competition across a variety of regime types. One of the crucial functions of parties is to orient populations into the decision space that defines policy strategies, so the population distribution of Left-Right orientations is a useful measure of party system fitness. Moreover, the way in which individuals interpret and use those signals should also be a partial function of cognitive mobilization. While we expect stronger party systems to better integrate entire populations, CM should initially improve the capacity for individuals to place themselves on a Left-Right scale independent of party system fitness. Yet, the most cognitively mobilized may no longer see themselves in the simplified Left-Right ideology of party competition.

Figure 5 illustrates the interaction of CM and representative systems through Left-Right orientations. Each bar represents a percentage of the adult population who are able to place themselves on the Left-Right scale, separated by four levels of system permissiveness. The four sections represent different levels of CM based on education and interest in politics, where the bottom category represents only elementary education and little or no interest in politics, and the top category contains only individuals with university degrees and at least some interest in
politics. While there is disagreement over how to best measure cognitive mobilization, this set of questions has been used by Dalton and others in a number of studies.

Figure 5

The pattern of Left-Right capacity is clear. Moving from the lowest to the highest level of system permissiveness, the percentage of citizens able to place themselves on the Left-Right scale increases by more than 20 percentage points, regardless of CM level. At the same time, CM plays an important role in strengthening Left-Right orientations, to the point that Left-Right capacity is nearly universal among cognitively mobilized adults in highly permissive systems. Even in the least permissive systems, which typically have smaller numbers of cognitively mobilized adults, over 70% of high CM respondents are able to place themselves on the Left-Right scale, compared to just half of low CM respondents.

Within the most permissive systems, Left-Right capacity flattens among high CM respondents as it nears universality, but there is no indication of drop off. CM not only increases Left-Right capacity, but also Left-Right consistency, the tendency to support policy positions consistently on the side of the Left-Right position that a respondent identifies with (not shown). At least with regard to Left-Right orientations, cognitive mobilization compliments system permissiveness and party fitness.
The World Values Survey also asks respondents how much confidence they have in political parties, and the results, shown in Figure 6, indicate that there are problems in the most permissiveness systems. The lowest percentages of respondents who have “some” or “a great deal” of confidence in parties is in the most permissive systems, regardless of CM level.

Figure 6

Although no more than a third of respondents in any category exhibited much confidence in political parties, there is a quadratic pattern in support: the highest levels of confidence are found in the least permissive regimes; strong majorities exhibit confidence in less permissive systems like Bangladesh and China; then there is a drop in confidence, followed by another increase and then the steep drop in the most permissive systems. Among the most cognitively mobilized, the pattern is not much different.

_Cognitive mobilization, party polarization, and perceived representation_

Another possible mismatch between contemporary systems of representation and their political environment involves traits of the party system that are distinct from the system of representation. One of the early fears that experts had regarding the influence of parties in popular government involves the danger of parasitism. Indeed much of republican theory in the Scottish and American tradition can be seen as meditation on the possibility of representative mechanisms to control “faction” and make it “less apt to pervade the whole body of the Union than a particular member of it.”
While measures of elite domination of parties are difficult to come by, the Comparative Study of Electoral Systems dataset\textsuperscript{25} is particularly suited to test hypotheses about how the shape of the party system affects voter perceptions. Dalton’s Party Polarization Index\textsuperscript{26} provides a comparative metric of the spread of parties across ideological space in respondents’ home countries (Appendix). Using standardized voter perceptions of party system polarization, I test the impact of these more direct effects on cognitive and partisan mobilization, as well as party attachments.

Figures 7a and 7b display the correlation between representative permissiveness and perceptions of party system polarization and representation. In the first panel, it is clear that party polarization is largely distinct from system permissiveness. Conceptually, system permissiveness and an increased number of parties extends the survival threshold for small, extreme parties, but the increased likelihood of coalition governments in permissiveness systems should constrain polarization. Furthermore, two-party blocs could be especially susceptible to extreme polarization under conditions where extremists fight for control of the major parties, as there is no other electoral outlet.

Previous research suggests that as party systems have become more fragmented, they have also become more polarized. However, Gerald Schneider’s analysis of OECD party polarization since WWII shows that a handful of party systems, coming from both FPTP and PR electoral systems, have increased in
polarization. Today there appears to be little correlation between system permissiveness and perceived polarization.

Figures 7a and b

By contrast, there is a substantial positive correlation between system permissiveness and perceptions of being represented by the party system. This measure of system “representativeness” combines responses about how well voters believe their views are represented by parties, and whether or not they are personally close to a political party. System permissiveness appears to allow voters and parties to align policy strategies more accurately, whereas in more closed systems, parties have less room to move about, increasing the average ideological distance.

If this is the case, feelings of being represented should be positively correlated with polarization, as Figure 8 shows them to be. System polarization is broken into four quartiles: low, moderate, medium and high. The first two bars in each section reflect the percentage of voters high on the representation measure, with separate bars for low and high CM respondents.

Among both CM groups, feelings of representation consistently improve until the third quartile of polarization, where they taper off. Interestingly, polarization improves feelings among low CM respondents at a higher rate: in the first and second quartiles of polarization, low CM respondents are markedly lower
in their party attachments than high CM respondents, but that difference disappears in the third quartile. Up to a limit, then, increased polarization integrates less cognitively mobilized voters into the system, arguably one of the classic functions of parties. However, there is still little evidence that CM is a threat to party survival; high CM respondents tend to feel better represented than others, just less so in more polarized systems. Overall, it would appear that there is a sweet spot of party system polarization, beyond which extremism begins to weaken the link between parties and citizens.

Figure 8

The second two bars in each section illustrate the impact that party system polarization has on another classic party function, mobilizing support through voter contact. In the least polarized systems, over one third of low CM respondents and nearly half of high CM respondents report being contacted by a political party prior to a recent national election. These numbers then plummet for both groups, bottoming out in the third quartile. As parties become more extreme, they are less reliant on the sort of broad based support that requires extensive mobilization efforts (and it becomes more costly to reach out).

Is this a sign of party decline? On the one hand, partisan mobilization is one of the core features of the “mass” party systems that grew out of Europe and North America early in the century. On the other hand, reducing mobilization costs could give parties an adaptive advantage, especially if they are able to develop a smaller but more loyal support base. In the most polarized systems, high
CM respondents one again exhibit a significantly higher level of contact, compared to low CM respondents, suggesting growing disproportionality of responsiveness to elites.

Further analysis (not shown) supports this claim, as party system polarization appears to be more sensitive to elite partisanship: high CM respondents are least partisan (place themselves close to the middle of the Left-Right scale) in the least polarized systems, and most partisan in the most polarized systems, where they are significantly more likely than low CM respondents to be contacted, to campaign and to try and persuade others of their political views. In short, it seems that moderate polarization, particularly in more permissive systems, erases some of the inequalities created by cognitive mobilization, but that they re-emerge in highly polarized systems, which are more elite dependent.

**Discussion and Conclusion: party systems and evolutionary mismatch**

The analysis above confirms much of the recent research on party system adaptation, while expanding the scope of observation to account for general patterns of change across a wide variety of systems of representation. Party systems are most certainly adapting, overall in terms of expansion, and in some cases specifically through greater fragmentation and/or polarization. On the whole, there can be little doubt that the direction of party system adaptation has been in the direction of greater permissiveness, which, with some important exceptions, appears to have strengthened the linkage between citizens and party systems.
Permissive systems of representation are better at integrating voters into the Left-Right schema of partisan competition, including voters who are not cognitively mobilized. At the same time, the most permissive systems exhibit the least amount of confidence in political parties, and not just among high CM individuals, who have greater confidence, on average. Overall, there is no clear directional linkage between permissiveness and confidence in parties, with support moving up and down the scale.

By contrast, more permissive systems exhibit stronger links in terms of feeling represented. Similarly, party system polarization contributes to feelings of representation, though the two institutional features are largely distinct. The strongest evidence of party system mismatch with environmental factors involves polarization directly, and system permissiveness indirectly. Polarization enhances representation to a point, but it appears to quickly and consistently diminish voter contact.

Feelings of representation fade in highly polarized systems, just as inequalities in participation between low and high CM respondents re-emerge. Less permissive systems experiencing high levels of polarization are thus the most likely candidates for mismatch, as they lack the flexibility to down-regulate the influence of extreme partisans, especially high CM partisans. Within such systems, partisan elites are likely to be more influential on the process of representation, as they seek to overtake major parties in play. By contrast, the fear of hyper-
fragmentation and coordination breakdown appears to be checked at least in part with the emergence of mixed-member and related electoral innovations.

It is unlikely that we will see the extinction of political parties as the primary mechanism for coordinating political decisions. Clearly, the process of representation is undergoing substantial changes across the globe, and part of that change is likely a response to increasing cognitive mobilization, because it is so closely linked to party system integration. But there is no evidence that cognitive mobilization is breaking up party systems as a whole; if anything CM is associated with greater system permissiveness.

More cross-national and time series research is needed to evaluate the causes and consequences of polarization across representative systems. There has been little research to study feedback from party systems through the legislative process. The likelihood of mismatch would seem to be highest in polarized party systems where partisan activists can exercise disproportionate influence over policy making. Among the public, extreme polarization represses mobilization and deliberation, which opens up opportunities for unequal influence, surely a sign of maladaptation.
Figure 1: System Permissiveness and the Effective Number of Parties ($N$)
Figure 2: Elections since 1960
Figure 3: Electoral and Party System change: 1960-2000

Figure 4: Electoral System Reforms 1993-2004
Figure 5: Ability to use Left-Right placement, by system permissiveness

Figure 6: Confidence in Parties
Figures 7a and 7b: Permissiveness, Polarization and Representation

Permissiveness (x) and party system polarization (y)

Permissiveness (x) and feeling represented by parties (y)

Figure 8: Polarization, Cognitive Mobilization and Representation

Party system polarization (PI)
References

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Cognitive mobilization is measured using education and responses to three political knowledge questions, as CSES did not ask about interest in politics. Overall county-level patterns match up well to the CM patterns found in the World Values Survey.