
A Network Analysis approach

Abstract: The New Elitism paradigm stresses the importance of consensually united elites as a condition for a successful transition to democracy in former authoritarian countries. In this article on the Spanish political Transition Period we consider the structural integration of elites as a condition to consensus building and thus, to transition to democracy. The Spanish elites were structurally unified before and during the Transition to Democracy period. Given that it is in no way needed to demonstrate the existence of consensual integration of elites, since the Law of Political Reform that opens the doors Spanish Constitution of 1978 was approved in 1977, the middle of the Transition Period, this structural integration seems to be a sufficient condition for democratic change. Social Network Analysis methods are used to demonstrate the existence of this structural integration.

1. Introduction: Elite Integration and Democracy. The Spanish case.

The “New Elite Paradigm” criticised by Cammak (1990) and defended by his main tenants Higley, Burton and Lowell Field (1990) states the existence of a strong relationship between consensually unified elites and democracy (John Higley and Gwen Moore (1981: p. 581)). Consensually unified elites are also considered as pluralistic. Previous to the settlement between elite’s factions, elites are disunified. And “A disunified national elite, which is the most common type, produces a series of unstable regimes that tend to oscillate between authoritarian and democratic forms over varying intervals” (Higley and Burton (1989)). And settlement is a political agreement between elite factions leaders
In addition "settlements are highly contingent events that depend on such factors as the skills and choices of elite persons who happen to be in place, and they cannot be fully "explained" in the usual social scientific sense." (Higley, Burton, and Field 1990).

Along the lines of this paradigm, much research has been published in the last 20 years, applying the criteria previously drafted to former Eastern European states (Anton Steen, 1997 and 2003, Frane Adam and Matevz Tomsic, 2002), South American Countries (Williams 1994, John Higley and Richard Gunther 1992) Russia and Asian states.


Our purpose in this research is to study the structural conditions of possibility of consensus between national elite sectors in the Spanish Transition to democracy using network analysis methods and objective data.

2. The “New Elite Paradigm”.
There is a broad agreement among scholars about the operational definition of the elite concept. Elites have been defined as the sets of individuals selected by their top positions in organizations supposed to be powerful.

Higley and Burton (1989, p.18) wrote: “Scholars generally agree that national elites can be defined as top position-holders in the largest or most resource-rich political, governmental, economic, military, professional, communications, and cultural organizations and movements in a society.” What remains to be clarified in this definition–as in many others–is if the top position holders selected as elite members are simply sets of individuals or social groups, engaged in collective action.

In the case of consensually integrated national elites, there is another feature of the elite concept, the existence of a structure of interaction that relates elite’s members. Higley and Burton (1989, p.18) wrote “A national elite is consensually unified when its members (1) share a largely tacit consensus about rules and codes of political conduct amounting to a "restrained partisanship" (Prewitt and Stone 1973; Di Palma 1973), and (2) participate in a more or less comprehensively integrated structure of interaction that provides them with relatively reliable and effective access to each other and to the most central decision-makers (Kadushin 1979; Higley and Moore 1981).”

The empirical base to establish this “structure of interaction” has been studied for example, in Higley and Moore (1981) and Higley, John, U. Hoffmann-Lange, Charles Kadushin and Gwen Moore (1991). But the cases considered in this research –United Sates, Germany and Australia–are “mature democracies” whose elites respond to the definition of consensually unified elite, that associates consensus with a structure of interaction between elite members. This structure of interaction has been studied using survey
methodology and, obviously, it is a research procedure limited to present time. It is not possible to apply surveys to past time samples…

In the case of disunified national elites "its members (1) share few or no understandings about the proprieties of political conduct and (2) engage in only limited and sporadic interactions across factional or sectorial boundaries" (Higley and Burton 1989, p. 19). That is to say: it would be possible to distinguish disunified from consensually unified elites studying their patterns of interaction among elite members. At our knowledge, this has not been done. The same considerations apply in the third case, “authoritarian” or “ideologically unified” elites. But no or little analysis is done on this third type of elites.

If we assume that democracy requires both a structure of interaction and the establishment of consensus between elite factions, one question remains to be discussed: arise these two features of national elites simultaneously or one precedes the other? Would it be possible to have a strong structure of interaction without or before consensus?

In the transitions studied in the New Elite Paradigm”, the consensual unified elite proceeds from disunified elite. But if the situation previous to the settlement is one of a structurally unified elite without an ideological unification, as it was the case in Franco Spain, how to explain why a settlement occurs? Was it a “settlement” or the political agreement was reached long prior Franco’s death?

3. Global features of the Spanish Political Transition Period

It is not our aim in this article to discuss current research on the Spanish Transition to Democracy. Our data and our analysis follow a direction that, as far as we know, is quite apart from the standpoints of research on this topic. But, insofar as our results may contradict more or less accepted conclusions about the nature of the Spanish Transition, it
is probably worth mentioning briefly some aspects of the prior research that could be affected by our results.

1. - The first question is if we can understand the Spanish transition to democracy in a purely political perspective. Most of the prior work does so.

2. - The second question is the role of the masses in the Transition. For some authors the masses were spectators, without any agency in the Transition process. Most of the authors do not even mention them.

3. - The third question is the role of the economic elites and, in general, the “civil society” elites.

4. - The fourth question is the dimension of the agency in the Transition process of international actors as foreign national states, political parties and Trade Unions.

5. - The last question is the dimension of the time interval needed for the understanding of the political Transition after Franco’s death.

Present research will discuss only points 1, 3, and 5.

4. Methodological standpoint

We will use in this research affiliation data: an individual I is a member of group J. For example, a certain individual is member of the board of directors of a particular firm Z. Or an individual I is member of the parliamentary group of a given political party P. Or he is member of the direction of a particular Department of the Public Administration. The

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1 The book of Victor M. Perez-Diaz 1993 The Return of Civil Society: The Emergence of Democratic Spain, Cambridge: Harvard University Press., is the major exception to this trend
groups are elite groups and individuals are, then, elite members. And, what is of outmost
importance, these *groups are a product of formal organizations*.

We can get this kind of membership information from archives or other kind of
public sources, independently of the individual’s consciousness.

Affiliation data may ordered in a kind of table usually called incidence matrix, in
which columns are groups and rows the membership of each individual in each column
(group), writing a 1 if the individual is a member of the group and a 0 otherwise.

The following table expresses an incidence matrix A:

\[
\begin{array}{ccc}
 & G1 & G2 & Gm \\
X1 & 1 & 1 & 1 \\
X2 & 0 & 0 & 0 \\
A = & X3 & 1 & 1 & 1 \\
. & . & . & . \\
Xn & 0 & 1 & 0 \\
\end{array}
\]

Affiliation data are of an objective nature, in the sense that we are not in need to ask
elite members what their relations are: we deduce relations between individuals or between
groups by the analysis of affiliation data.

This analysis starts from a very simple standpoint: two or more persons that are
members of the same group are in relation through their common membership. And two
groups that have one or more individuals in common are related by these individuals. Using
this standpoint, Breiger demonstrated that using two matrix multiplications is easy to get
the matrix of the relations between individuals and the matrix of between group’s relations
(Breiger, Ronald. 1974). Each one of the two matrixes defines a network.
Using this simple procedure, we will work with two networks: a network of relation between groups and a second network of relations between individuals. This network analysis will produce information about the level and nature of the integration of the Spanish national elite during the Transition to Democracy period.

5. The nature of the data

The present research is a minor part of a decade's effort to understand the transformations of social structure and power in society, focused on recent Spanish history merely for reason of convenience. Our data set cover the period 1939 to 1982 and here we are focusing only in the period 1975 to 1982. It includes, in addition to members of economics organizations, all the persons holding power positions in the State and the Public Administration.

The data set has been built as follows:

First: identification of power positions in three different sectors: legislative, executive and economic. The identification proceeds by selecting, first, in each sector, a boundary: for the legislative sector, the set of all the positions in the Congress of Deputies and in the Senate. For the administrative sector, all the positions for which a political nomination is required. For the economic sector, all the members of the Boards of Corporations with more than 100,000,000 pesetas of capital (around 600,000 USD) in 1981. This last boundary is quite artificial, but the number of corporations included in the set is 1379 following the preceding criteria. A lower limit for subscribed capital would have produced still a bigger corporation set, including hundreds of thousand of very small firms that are created and disappear year after year.
For each of the positions in the three sectors, data include position's name, subsector - Departments for Public Administration, Political Parties for the two Chambers, and economic activity sectors (Banks, Communications etc.) for corporations.

Second: identification of position's holders in each sector

The identification is easy for the Chambers, as this data are public. For the holders of Administrative positions, data are also public, but it has been necessary to extract them from the Official Journal (Boletín Oficial del Estado, BOE). Corporation Board's members have been identified through the "Directorio de Consejeros y Directores" (DICODI), published every year.

Third: addition of all the positions hold by the same individual either in the same or in different sectors.

Fourth: identification, for each position holder, of the possession or not of the attributes of members of the higher corps of Civil Servants, owing a particular legal status. By "higher corps" we meant all the corps requiring the equivalent of a Master Degree for admission into the exams of the selection process. Only a few of this corps appear in the data set associated with individuals holding power positions, that are those considered to be the "elite corps". All others do not appear related to the individuals previously identified as holders of power positions…

The following table expresses the dimension and nature of the data set we are analyzing here: Network of individuals and network of groups.
<table>
<thead>
<tr>
<th></th>
<th>Individuals</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>11014</td>
<td>1484</td>
</tr>
<tr>
<td>Edges</td>
<td>116389</td>
<td>12713</td>
</tr>
<tr>
<td>Density</td>
<td>0.00192</td>
<td>0.0115</td>
</tr>
<tr>
<td>Degree&gt;=1</td>
<td>11008</td>
<td>1466</td>
</tr>
</tbody>
</table>

6. **The first question: integration of the different elite sectors groups.**

a. **Global properties of the complete elite groups network**

We will examine here the network of groups. It has 1484 vertex and 12713 edges and includes groups from the economic, political and administrative elites. The network density is high: 0.0115. It means that 2 200 272 maximum possible edges – all points are connected between them – there are 12713 actual edges. It can seem not so much, but if we examine the size of the greater connected component of this network, we see that it includes almost all the groups, 1466 out of 1484, and the groups that are not members of this component have no connections at all.

The average distance\(^3\) between vertexes is 3.02314 and the distribution of distances between vertexes is the following:

\(^3\) We use here the expression “distance” between two points instead of “length of the shortest path” or length of the geodesic, more corrects, but longer and less intuitive.
It means that each group can reach another, if not directly, at least through a number of steps that in the average is 3, the maximum – only 2 pairs are at this maximum distance – is seven.

We can look also at the number of edges each point has. It is called the degree of the point. The following graph expresses the degree distribution in the network of groups.

The average degree is 17.13.

b. Sector’s integration
By sectors we mean here the categorization of groups by:

1. - Grouping corporations by 31 Economic sectors of activity.

2. - Grouping Position holders in the Parliament and the Senate

3. - Grouping together top position holders in the Public Administration

4. - Of the precedent categories, adding in one class all those who are members of the elite corps of civil servants.

The following graph is a reduced graph that depicts the relations between the 31 different economic activity sectors of the corporations and the three classes of State defined elite groups.

In this graph, the width of lines is proportional to the number of relations. At the left of the graph, we can see three points grouping class l (Legislators in their political parties), class d (Top Administrative position holders) and f (Civil Servants) and the point labelled

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4 This, and all the following pictures of networks in this article have been produced using the social network analysis program PAJEK.
1046R that groups the financial economic sector corporations. They are the most related categories.

The Betweenness centrality measure\(^5\) of the preceding network is expressed in the following graph: the lower the point in the graph, the bigger the betweenness centrality score.

The higher betweenness centrality correspond to the financial economic sector (1046R) and two other economic sectors, one without much interest because is a residual category (0006L). And also to the top positions holders in Public Administration (#d), Civil Servants Corps (11f) and legislators (#0*l). The betweenness centrality score measures the mediation potential of the points in a network. It is interesting to see which are the elite group sectors with greater mediation potential.

c. Economic and State defined sectors: networks of groups

There is another way of categorization of the groups: putting together all the corporations in the Economic Sector in one separate network and all the State defined sectors together in another separate network. The following table expresses the features of this partition:

<table>
<thead>
<tr>
<th>Network</th>
<th>Nº of Points</th>
<th>Nº of Edges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boards of corporations</td>
<td>1375</td>
<td>11250</td>
</tr>
<tr>
<td>State defined groups(^6)</td>
<td>109</td>
<td>563</td>
</tr>
</tbody>
</table>

\(^6\) This category includes members of the Parliament and the Senate and their political parties, top position holders in the Administration and Corps of Civil Servants membership.

d. The first sub network: boards of corporations

This sub network has 1375 points and 11250 edges. The density of the network is 0.0119095. The Network Input Degree Centralization is 0.06971 and the average degree is 15.32945455. The degree distribution is the following:
The average distance between points is 3.04150 and the maximum distance between pairs of points (the diameter) is 7. The distances distribution is:

![Distribution of distances: corporations](image)

e. The second sub network: State defined, political and administrative groups

This network has 109 points and 563 edges. The density of the network is 0.0956507. The Network Input Degree Centralization = 0.14780. The average degree is 10.33 and the degree distribution is as follows:

![Degree distribution of political and administrative groups network](image)

The average distance between pairs of points is 2.16861 and the diameter is 5.
### Comparison between the precedent sub-networks

The following table resumes the main parameters of both sub networks:

<table>
<thead>
<tr>
<th>Network</th>
<th>Nº of points</th>
<th>Nº of Edges</th>
<th>Average Degree</th>
<th>Density</th>
<th>Average distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boards of corporations</td>
<td>1375</td>
<td>11250</td>
<td>15,32</td>
<td>0.0119</td>
<td>3.0415</td>
</tr>
<tr>
<td>State defined groups</td>
<td>109</td>
<td>563</td>
<td>10,33</td>
<td>0,0956</td>
<td>2.1686</td>
</tr>
<tr>
<td>Addition of both networks</td>
<td>1484</td>
<td>11813</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Complete network</td>
<td>1484</td>
<td>12713</td>
<td>17,13</td>
<td>0.0115</td>
<td>3.02314</td>
</tr>
<tr>
<td>Edges between corporations and State defined groups</td>
<td>1484</td>
<td>900</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

As we can see, while the addition of the points belonging to the two separate networks is 1484, that is to say, the number of points in the global network, the number of edges in the addition (11813) is lower than in the total network (12713): the difference, 900 edges connect State defined sector with the economic sector. This number of edges
between the two categories is greater than the number of edges within the State defined sector alone 563.

The average distance between pairs of points is lower in the State defined sub network (2.16) than in the corporation’s board’s network (3.04). And the complete group’s network has an average distance between pairs of 3.02 that, while higher than the State defined sub network, is slightly lower than the corporation’s board’s network.

g. Conclusions

The preceding analysis shown that there is a strong cohesion in Spanish national elite of the Transition period from the point of view of the elite sectors groups. Particularly, it evidences an integration of the State system elites (political and administrative elite groups) with the economic elites. This integration level is high enough to consider the need of studying together political and economic elites, even in the case when our research interest is political. While political and administrative sectors of the elite have 563 internal edges, they have 900 links with the economic sector groups. We can look at the economic sectors as the main integration factor in the political and administrative elites.

7. The network of individuals

a. Global Properties of the network of individuals

We have briefly analyzed the relations between elite groups. Now we focus on the dual network, the network of individuals. The number of points in this network is 11014, the number of edges is 116389 and the network density is 0.0019189.

Looking at the connected components of this network, we find a giant component with 10966 points, 99.5642% of the total. The second bigger connected component has only 13 points. It is a very connected network.
The average distance between points is 3.77652. At distance 1, there are 232778 pairs and at the maximum distance 8, there are only 112 pairs. The distribution is as follows.

![Distances distribution network of individuals](image)

The distribution of degree of points in this network is the following:

![Distribution by degree Network of individuals](image)

The average degree is 21.13.

If we look now at each point mediation potential, using the betweenness coefficient, we find a Network Betweenness Centralization = 0.01482. The point betweenness is expressed in the following graph of the network, where the lower points have more betweenness centralisation.
It is a very interesting graph: the points with greater centrality have codes lower than 11000, what means that they are individuals who hold elite positions not only in the Transition period, but also in the Francoist era. It is an excellent argument in favour of the existence of a high degree of structural cohesion in the Transition elites.

To examine more in detail this central question, it is worth to partition the individual’s network into two sub networks: those of the Transition elite members who held elite positions also in the Franco Period and those which only held elite positions after Franco’s death.

b. Partition of the network of individuals
The partition of the network of individuals in two sub-networks following the preceding criteria produces the following table.
<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
<th>% total</th>
<th>Fraction elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3794</td>
<td>34.4471</td>
<td>Pre-Transition and Transition</td>
</tr>
<tr>
<td>2</td>
<td>7220</td>
<td>65.5529</td>
<td>Only Transition</td>
</tr>
<tr>
<td>Sum</td>
<td>11014</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

We can now analyze these two networks separately.

c. **The pre-transition elite fraction network. Level of integration**

This fraction of the Transition national elite has 3794 individuals. The number of edges is 27851. This network density is 0.0038707. Comparing this value with the same measure in the complete individual’s network, 0.0019189, we observe that this sub-network has a double density that the complete network in which it is included.

The average degree of this sub-network is 14.68. The degree distribution is as follows:

![Degree Distribution Individuals](image)

The average degree of this network is lower than in the complete individual’s network, where it reaches 21.13.
The average distance between points is 3.61 and the maximum distance – diameter – is 7. The distribution of distance is expressed in the following graph:

![Distances distribution graph](image)

The values of the betweenness coefficient are associated to the points of the network as can be seen in the following graph. For our present purposes the identification of the points with a higher mediation potential is not essential. What is interesting, nevertheless, is to see the strong differentiation of the network in terms of this measure.
d. **The Transition only fraction network: Level of integration.**

The fraction of the total networks of individuals including only those that appears as elite members after Franco’s death and not before has 7220 points and 50624 edges between them. The network density is 0.00194.

The average distance between points is 5.029, higher than those of the pre-Transition also sub-network (3.61).

The distribution of distances is as follows:
The average degree of this sub-network is 14.02, lower than in the pre-Transition also sub-network (14.68) and that the complete individuals network, 21.13.

The degree distribution is the following:

The betweenness values of the points are expressed in the following graph of the sub-network.
e. **Comparisons between the complete elite network and the two sub-networks**

The following table resumes the preceding analysis of the individual’s networks.

<table>
<thead>
<tr>
<th>Network</th>
<th>Number of points</th>
<th>Number of edges</th>
<th>% of edges/complete graph</th>
<th>Density</th>
<th>Average degree</th>
<th>Average distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Transition also sub-network</td>
<td>3794</td>
<td>27851</td>
<td>23.929</td>
<td>0.00380</td>
<td>14.68</td>
<td>3.61</td>
</tr>
<tr>
<td>Transition only sub-network</td>
<td>7220</td>
<td>50624</td>
<td>43.495</td>
<td>0.00194</td>
<td>14.02</td>
<td>5.029</td>
</tr>
<tr>
<td>Addition of the two preceding sub networks</td>
<td>11014</td>
<td>78475</td>
<td>67.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete network</td>
<td>11014</td>
<td>116389</td>
<td>100</td>
<td>0.001918</td>
<td>21.13</td>
<td>3.77</td>
</tr>
<tr>
<td>Differences between the addition and the complete network</td>
<td>0</td>
<td>37914</td>
<td>32.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As we can observe in this table, the number of edges joining the two elite sub-networks (37914), is higher than the number of edges in the “pre-Transition also elite members network”, and represent a percentage of the links also higher (32.73% vs.23.92%). This fact means that the edges between “pre-Transition also elite members” and “Transition only elite members” are more important than those existing inside the first network. This 37914 are responsible of the average degree level in the complete individual’s network.

Also we see that the average length of the shortest paths between points – here called “average distance” – is so different between the first sub-network, the second sub-network and the complete network. The cohesion of the members of the Transition elite that were also members of the francoist elites is higher that the level existing in the Transition only members of the elite and it is this cohesion the principal factor of cohesion in the complete elite member’s network. Consequently, an important part of the indirect links existing between “Transition only” members of the elite is due to their common relation with elite members that were part of the pre Transition Francoist elites.

f. Conclusions: the level of integration of the individual’s network.

Despite the huge size of the complete network of individuals in the Transition elites (11014 individuals or points) and the fact that the only kind of relation analyzed in this research is the co-membership relation in organizationally and formally defined elite groups, we find a very cohesive, strongly integrated elite network in which members of the Francoist era elites play a strong connective role. It happens so without taking into account other kind of connective relations as are kinship, friendship and so-called “informal” relations coming from the elite members school circles, social clubs etc.
In this network, persons who hold elite positions during the Francoist period are strongly inter-related not only among themselves but also with the “new elite” members, with those persons who are members of the Transition elites but were not members of the Francoist elites. The “new elite members”, alone, are not as strongly integrated as the former.

8. General conclusions

a. Subjective versus objective dimensions of national elites integration

Our analysis focus the integration of Spanish Transition elites in terms of cohesion of the networks of elite groups and the network of elite individuals holding elite positions in the Transition period January first 1976 to December 31 1976. Both networks are built from objective and public affiliation data and don’t take into account the contents of individual’s minds. We don’t use any data concerning the political consensus formation process during this period. But it is out of any doubt that consensus about the rules of the game, the norms of political interaction, was reached in 1977, before the Referendum on the Law of Political Reform and consolidated with the Constitution of 1978.

b. Existence of a high degree of elite integration in the Spanish national elites

We have demonstrated the existence of a high degree of cohesion in the networks of interactions of the Spanish national elites during the Transition period, as high as the level of consensus on political institutions growing during these months. What appears as an important issue is from where does this high level of cohesion in interaction networks comes? The hypothesis of a sudden and spontaneous emergence of this network of interactions after Franco’s death has no sense at all…
Other hypothesis, quite well grounded on facts, consists in taking into account the important mediation and integration roles of the Francoist elite members that were also members of the Transition elites. As we have seen, they were themselves strongly integrated and cohesive. Then, it makes sense to think that they enlarged their previous to the Transition networks, incorporating new individuals in the Transition period, persons who, in the Francoist era were not members of the organizational elites.

This hypothesis is supported by previous research (Baena M. and Pizarro, N. 1985 and Baena. 1999) on the Spanish national elites during the Franco Regime: the Spanish national elites were strongly integrated much before Transition, with a prominent cohesive role of the higher corps of civil servants. While this role of civil servants lost importance during – and after – the Transition (Baena, Garrido and Pizarro. 1984), it was important enough to be a bridge between old economic and political elites and the Opposition members, of which a part were also members of the Corps of Civil Servants, while not holding elite positions in this period: they reached this kind of positions during the Transition. It is necessary then to consider the structural features of the Francoist elites to better understand the Transition to democracy process. Consequently, the time interval needed to consider in the analysis of the Transition process can not be limited to the political settlement period, after Franco’s death.

**c. Role of the economic elites**

As we have seen, network analysis of our data shows that economic and political elites are strongly integrated, in such a way that it is possible – and necessary – to study them as whole.

Besides network analysis of the Transition elites, they is information concerning the relations between corporations, particularly in the financial sector, and political opposition
groups to the Franco’s Regime groups during the pre-Transition and the Transition periods concerning the financial support of some opposition groups by important corporations. One important case is the financing by one important bank of the Escuela Crítica de Ciencias Sociales (Critical Social Sciences School) that put together intellectuals of different opposition groups during the sixties. Banks also help to finance left wing parties in the Transition period also.

An adequate understanding of the Transition period to democracy can not, then, be limited to the analysis of political elites in the restrictive sense, also, of political parties. It has to incorporate economic elites as well as administrative elites.

9. References


McDonough and Lopez Pina, -Continuity and change in Spanish politics," in Dalton,


