A CONTINUUM OF ELECTORAL SYSTEMS? (OR, WHY LAW AND LEGISLATION NEED TYPOLOGIES)

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Abstract

Constitutions of several countries have provisions prescribing that elections to their parliaments be held in accordance with the principle of proportional representation, but they usually do not define "proportional representation". It is a task for ordinary legislators to decide which proportional system shall be adopted. At the same time, one of the strongest trends within electoral studies in recent decades is to reject a dichotomous classification of electoral systems (majoritarian and proportional). According to this trend, electoral systems should be organised along a continuum. In this article I advocate three main theses on the continuum of electoral systems. Firstly, I argue that the tenability of such continua is undermined by their organisation grounded exclusively in indices of disproportionality. Secondly, I claim that the fact that electoral systems may be organised as a continuum does not preclude the necessity of a typology of electoral systems. Thirdly, I argue that, because continuum theories are divorced from legal and legislative vocabulary, they are useless to serve as basis for legal or legislative decisions.

Keywords

Electoral systems; proportional representation; methodology; constitutional law; legislation; constitutional review.

A. INTRODUCTION

Constitutions of several countries have provisions prescribing that elections to their lower houses of parliament are to be held in accordance with the principles

of proportional representation. Aside from a few exceptions, such as the constitutions of Ireland, Malta, Norway, and Portugal, constitutional texts usually do not define "proportional representation".[1] Among many others, the constitutions of Austria (art. 26, 1), Belgium (62, 2), Brazil (art. 45), the Czech Republic (art. 18, 1), Latvia (art. 6), The Netherlands (art. 53, 1), Paraguay (art. 118), Poland (art. 96, 2), South Africa (art. 46, 1d), South Korea (art. 41, 3), Spain (art. 68, 3), and Switzerland (art. 149, 2) make use of very general expressions such as "elections in accordance with the principles of proportional representation" (Austria and Czech Republic) or according to the "system [or criteria] of proportional representation" (Spain and Switzerland). Explicitly or not, this means that it is a task for ordinary legislators to decide which proportional system shall be adopted.[2]

At the same time, a strong trend within political and electoral studies in recent decades is to reject a dichotomous classification of electoral systems into majoritarian and proportional systems. According to this trend, electoral systems are complex constructions that do not fit into two clearly defined mutually exclusive categories, and should rather be organised along a continuum, beginning with the system that causes more distortion and ending with the system that causes less.[3] As Grofman and Reynolds have stated:

> "We find that the PR vs. plurality debate is largely misguided. First, any simple-minded polar opposition between PR and plurality is mistaken because we can better think of electoral systems as organized along a continuum [...] than in terms of a dichotomy".[4]

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[1] The constitutions of Ireland (art. 16, 2.5) and Malta (art. 56, 1) require that the system to be used is the single transferable vote; the constitution of Norway (art. 59, 4) prescribes the adoption of the modified Sainte-Laguë formula; and the constitution of Portugal (art. 149, 1) requires the Hondt formula.

[2] Some constitutions explicitly make reference to ordinary legislation, like those of Belgium ("Elections are carried out by the system of proportional representation that the law determines") or South Korea ("The constituencies of members of the National Assembly, proportional representation, and other matters pertaining to National Assembly elections are determined by law"). For others, this assumption remains implicit.

[3] The organization of electoral systems alongside a continuous line may be based on other criteria (i.e., not necessarily on the degrees of proportionality or distortion). Carey and Shugart, for instance, created a ranking based on the incentives each system provides for cultivating personal vote (see J.M. Carey & M.S. Shugart, 'Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formulas' (1995) 14(4) *Electoral Studies* 417). Grofman refers to three main criteria of organizing electoral systems based on continuous lines: proportionality, candidate focus, and localism. In this article, whenever not differently qualified, references to a continuum or to a continuous line are to be understood as rankings based on proportionality/distortion (see B. Grofman, 'Comparisons Among Electoral Systems: Distinguishing Between Localism and Candidate-Centered Politics' (2005) 24(4) *Electoral Studies* 735, 739).

[4] B. Grofman & A. Reynolds, 'Electoral Systems and the Art of Constitutional Engineering: An Inventory of the Main Findings' in R. Mudambi and others (eds.), *Rules and Reason: Perspectives on Constitutional Political Economy* (Cambridge University Press, Cambridge 2001) 131–32.

Even though the definition of where a given electoral system should be placed in this continuous line may be based on different (and not always fully compatible) indices of proportionality/distortion, the idea underlying all of these rankings is always the same: dichotomous categories are artificial[5] and fail to capture the diversity among the systems: "it is not so much a matter of two contradictory types of electoral systems but of a continuum".[6]

In this article I propose three main theses on the continuum of electoral systems. Firstly, I argue that the tenability of such continua is undermined by their organisation grounded exclusively in indices of disproportionality, and this, for two main reasons: (i) because different indices produce different outcomes; thus, it is impossible to precisely locate each system along a continuum; and (ii) because, even if there were a consensus on which is the best index of disproportionality, the definite unidimensional character of such indices makes them unreliable as a basis for a classification of electoral systems. Secondly, I claim that the mere fact that electoral systems may possibly be understood as composing a continuous line ranging from the most to the least proportional does not preclude the possibility and necessity of a typology of electoral systems. Thirdly, I argue that continuum theories are divorced from legal and legislative vocabulary. Since the organisation of electoral systems along a continuous line usually has the explicit goal of mitigating mutually exclusive types of electoral systems, any theory based on the continuum idea is useless to serve as basis for legal or legislative decisions. All linguistic connections between the vocabulary of political science and the vocabulary of law and legislation simply disappear. It becomes thus impossible to draw upon a classification which eliminates, or strongly mitigates, the categories "majoritarian" and "proportional" in order to interpret constitutions that still use (and will continue to use) them.

In order to achieve these goals, this article is organised as follows. In section B, I briefly describe the most widespread form of organizing a continuum of electoral systems, namely that by resorting to a given index of disproportionality. In section C, I attempt to show that this strategy (grounding a continuum on a given index of proportionality) is problematic, especially (but not only) due to the multiplicity of indices available. Section D aims, above all, to demystify the idea that, because the great variety of concrete electoral systems may allegedly be better grasped by the idea of a continuum, than the traditional and mutually exclusive categories (majoritarian x proportional) are to be rejected. The above mentioned importance, for law and legislation, of a typology of electoral systems will be further analysed in section E. As will be seen, this

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[5] C. Anckar, 'Determinants of Disproportionality and Wasted Votes' (1997) 16(4) *Electoral Studies* 501, 502.

[6] R. Taagepera & M.S. Shugart, *Seats & Votes: the Effects and Determinants of Electoral Systems* (Yale University Press, New Haven 1989) 114.

typology should be grounded in the idea of the principle of representation. Section F is the conclusion of the article.

B. NOT A MATTER OF PRINCIPLE, BUT DEGREE

Although the idea of rejecting the existence of mutually exclusive categories of electoral systems and the claim that these systems should be organised along a continuous line are not new,[7] its acceptance within electoral studies was consolidated especially during the 1980s.[8] Ever since, this idea has gradually gained ground,[9] and is now "standard in the literature".[10]

  Based on the proportionality index he developed,[11] Rose has argued that the differences among electoral systems are not of principle, but rather of

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[7] See for instance Sartori's characterization of electoral systems as strong or feeble (G. Sartori, 'Political Development and Political Engineering' in J.D. Montgomery & A.O. Hirschman (eds.), *Public Policy* (Harvard University Press, Cambridge (Mass.) 1968) 278). At the same time, the same idea of a continuum of electoral systems has been also developed by scholars from outside the Anglo-American tradition. See for instance R. Wildenmann and others, 'Auswirkungen von Wahlsystemen auf das Parteien- und Regierungssystem der Bundesrepublik' in E.K. Scheuch & R. Wildenmann (eds.), *Zur Soziologie der Wahl* (Westdeutscher Verlag, Köln/Opladen 1965) 107 and H. Meyer, 'Die herkömmliche Wahlsystematik und ihre Folgen' (1971) 23 *Die öffentliche Verwaltung* 691, 694–95; H. Meyer, *Wahlsystem und Verfassungsordnung: Bedeutung und Grenzen wahlsystematischer Gestaltung nach dem Grundgesetz* (Metzner, Frankfurt am Main 1973) 189.

[8] See for instance R. Rose, 'Electoral Systems: a Question of Degree or of Principle?' in A. Lijphart & B. Grofman (eds.), *Choosing an Electoral System: Issues and Alternatives* (Praeger, Westport 1984); Taagepera & Shugart, *Seats & Votes*, supra (n 6).

[9] See for instance Anckar, 'Determinants of Disproportionality', supra (n 5); B. Wessels, 'System Characteristics Matter: Empirical Evidence from Ten Representation Studies' in W.E. Miller e.a. (eds.), *Policy Representation in Western Democracies* (Oxford University Press, Oxford 1999); Grofman & Reynolds, 'Electoral Systems', supra (n 4); L. Mosley & A. Reynolds, 'The Consequences of Electoral Systems: A Global Study' (Chapel Hill 2003); and G.W. Cox, 'Electoral Institutions and Political Competition: Coordination, Persuasion and Mobilization' in C. Ménard & M.M. Shirley (eds.), *Handbook of New Institutional Economics* (Springer, Berlin 2008) 72. For works from outside the Anglo-American tradition, see, for instance, E. Jesse, 'Wahlsysteme und Wahlrecht' in O.W. Gabriel & S. Kropp (eds.), *Die EU-Staaten im Vergleich* (VS Verlag für Sozialwissenschaften, Wiesbaden 2008) 300; E. Schütt-Wetschky, 'Wahlsystem und politisches System in der parlamentarischen Demokratie' (1986) 19 *Politische Bildung* 3, 7; A.A. Martino, *Sistemi elettorali* (Pacini, Pisa 1997) 62; T. Diamantopoulos, *Les systèmes électoraux aux présidentielles et aux législatives* (Éditions de l'Université de Bruxelles, Bruxelles 2004); N. Sauger, 'L'esprit des lois? L'étude des modes de scrutin un demi-siècle après "Les partis politiques" de Maurice Duverger' (2005) 55 *Revue Française de Science Politique* 524, 526; and J.A.G. Tavares, *Sistemas eleitorais nas democracias contemporâneas: teoria, instituições, estratégia* (Relume Dumará, Rio de Janeiro 1994).

[10] G.W. Cox, *Making Votes Counting: Strategic Coordination in the World's Electoral Systems* (Cambridge University Press, Cambridge 1997) 11.

[11] The formula to obtain such an index is: $100 - [(|v_a - s_a| + |v_b - s_b| + |v_c - s_c| + ... |v_n - s_n|)/2]$, for v being the percentage of votes and s the percentage of seats which each party (a, b, c, ..., n) has obtained (Rose, 'Electoral Systems', supra (n 8) 74–75; T.T. Mackie & R. Rose, *The International Almanac of Electoral History* (3rd edn, CQ, Washington 1991) 509–10).

degree.[12] Therefore, electoral systems should not be classified into mutually exclusive categories, but be understood as points on a continuum. Their place within this continuum is defined by their degrees of proportionality. Rose's main argument are the results of his analysis of the electoral systems adopted by twenty-four different countries. His ranking shows – and this is the core of Rose's reasoning – that some majoritarian systems obtained a higher index of proportionality than some proportional systems. The United States, for instance, which adopts a majoritarian electoral system (plurality), performed better (index of proportionality = 94) than some countries with proportional systems, like Portugal (index of proportionality = 93), Norway (91), Luxembourg (90), Greece (88) and Spain (84).[13]

Although Rose's index is no longer used, its simplicity, and the simplicity of Rose's reasoning as well, sum up quite well what is at stake: (i) the difference of disproportionality between each contiguous system in the ranking is very small (average 0.86); (ii) it is impossible to divide the ranking at any point, in an attempt to construct two groups (PR and non-PR systems, for instance), without having some exceptions in both groups. As Rose has stressed: "The most representative plurality system, the United States House of Representatives, is at least as proportional as seven of the seventeen PR systems. The least proportional PR system, Spain, is more disproportional than five of the seven non-PR systems".[14]

C. DIFFERENT INDICES, DIFFERENT CONTINUA

Even though the idea of a continuum of electoral systems is widely (explicitly or implicitly) accepted, the criteria for placing each electoral system along this continuous line are multiple. That is to say that the position each concrete electoral system occupies within this continuum depends on (and may vary according to) the adopted criteria.

Both before as well as after Rose's proportionality index, other indices have been developed. The most influential are the Rae index,[15] the Loosemore-Hanby index,[16] the least-squares index,[17] the largest-deviation index and the

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[12] Rose, 'Electoral Systems', supra (n 8) 74.

[13] Ibid 75.

[14] Ibid 74.

[15] D.W. Rae, *The Political Consequences of Electoral Laws* (Yale University Press, New Haven 1971) 84.

[16] J. Loosemore & V.J. Hanby, 'The Theoretical Limits of Maximum Distortion: Some Analytic Expressions for Electoral Systems' (1971) 1(4) *British Journal of Political Science* 467.

[17] M. Gallagher, 'Proportionality, Disproportionality and Electoral Systems' (1991) 10(1) *Electoral Studies* 33, 40–41.

regression coefficient.[18] [19] The diversity of indices would not bring about any major problems if not for the total disparity of results they produce. A minor example, with hypotheses made by Lijphart,[20] shows this problem: in an initial hypothetical election between two parties, the Rae and the Loosemore-Hanby indices have the same value (5.00); in another election, this time with twelve parties, the same indices are of, 1.67 and 10.00, respectively; in a third hypothesis, with ten parties competing against each other, the indices change to 1.00 and 5.00.[21] The reliability of such indices as the only criteria for the classification of electoral systems is thus somehow questionable. Moreover, as Pennisi has put it, the "effort dedicated to the construction of suitable measures of proportionality does not correspond to the little attention accorded to the fact that the different indexes are actually different ways of conceiving (and not only of measuring) proportionality".[22]

D. CLASSIFICATIONS, TYPOLOGIES AND CATEGORIES

In addition to the problem resulting from the variety of indices, continuum-based theories are also grounded in two fallacious assumptions concerning typology construction. The first one is the so-called sorites fallacy. Putting it in a simple way, the sorites fallacy leads one to conclude that if any division in a continuum would be arbitrary, then no division can be drawn. The second one relates to the existence of so-called grey zones: if there are grey zones between categories, then no classification can be made. As shown in figure 1, this last assumption would lead to the conclusion that from the impossibility of (1) and from the uncertainty of (2) follows the necessity of (3). That is to say that if it is impossible to construct a classification within which each category has perfectly sharp

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[18] A. Lijphart, *Electoral Systems and Party Systems: a Study of Twenty-Seven Democracies. 1945-1990* (Oxford University Press, Oxford 1994) 59.

[19] For further analyses of these and other indices see V. Fry & I. McLean, 'A Note on Rose's Proportionality Index' (1991) 10(1) *Electoral Studies* 52; B.L. Monroe, 'Disproportionality and Malapportionment: Measuring Electoral Inequity' (1994) 13(2) *Electoral Studies* 132; J.-S. Li, 'Analyse critique des indices de disproportionnalité électorale et de stabilité: application aux cas de l'Allemagne et du Japon' (1995) 2 *Revue Internationale de Politique Comparée* 369; P.G. di Cortona and others, *Evaluation and Optimization of Electoral Systems* (SIAM, Philadelphia 1999); and R. Taagepera & B. Grofman, 'Mapping the Indices of Seats-Votes Disproportionality and Inter-Election Volatility' (2003) 9(6) *Party Politics* 659.

[20] Lijphart, *Electoral Systems and Party Systems*, supra (n 18) 59.

[21] The values for the other indices, for these three examples, are: least-squares index (5.00, 5.48, 2.24); largest-deviation index (5.00, 5.00, 1); and regression coefficient (2.00, 1.13, 1.20).

[22] A. Pennisi, 'Disproportionality Indexes and Robustness of Proportional Allocation Methods' (1998) 17(1) *Electoral Studies* 3, 3–4; see also G.W. Cox & M.S. Shugart, 'Comment on Gallagher's "Proportionality, Disproportionality and Electoral Systems"' (1991) 10(4) *Electoral Studies* 348; H. Riedwyl & J. Steiner, 'What Is Proportionality Anyhow?' (1995) 27(3) *Comparative Politics* 357; G. Borisyuk and others, 'Selecting Indexes of Electoral Proportionality: General Properties and Relationships' (2004) 38(1) *Quality and Quantity* 51.

boundaries, then a classification is impossible and we need a continuum of options.

(1)

A   B   C

(2)

A   A? B?   B   B? C?   C

(3)

AO   A1
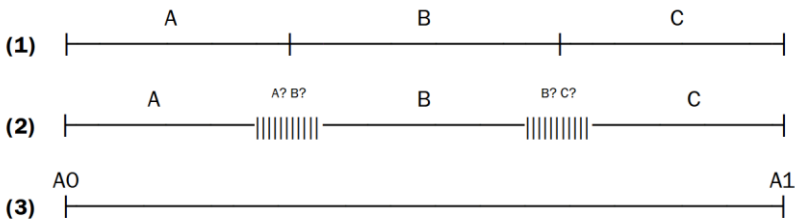
There is no doubt that pattern 1 in the figure above is, in most cases, the one that most artificially describes the real world, no matter what is the object being analysed and classified. It is true that most things in the real world can be better described as a continuum (pattern 3). As Leibniz used to state, "la nature ne fait jamais des sauts", i.e., nature makes no leaps.[23] In other words, in nature, things occur by degrees: there is not only black and white, there is also grey. But adding a new category "grey" may not solve the problem either, since there is an incredible range of grey tones, some being very close to black or to white. If we ask 100 people to indicate, within a palette ranging from the blackest black to the whitest white, where the boundaries between black and grey, and between grey and white are located, it is possible that we would obtain 100 different answers, all as arbitrary as the others.[24] Does this mean that it is artificial or arbitrary to speak of black, white and grey?

The colour example shows the two main difficulties in organising classifications and typologies. The first is an epistemic issue; the second is a problem of vagueness. The epistemic issue is related to our inability to perceive the finest differences between tones of grey. When the epistemic issue is at stake, the problem is not so much as to determine how many categories we should demarcate, but to then decide in which category to locate each real occurrence of a given object or phenomenon. Even if we are sure that every colour in a given range is either black or grey or white, and even if we could define the exact limits between these three categories, we still have an epistemic problem, due to our limited cognitive capacity.

The problem of vagueness, although frequently associated with the epistemic issue, is of a different nature. Vagueness is related not to our cognitive

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[23] G.W. Leibniz, *New Essays on Human Understanding (1704)* (P. Remmant & J. Bennett trs., Cambridge University Press, Cambridge 1996) 56. The idea is summarised in his "Law of Continuity": "It implies that any change from small to large, or vice-versa, passes through something which is, in respect of degrees as well as of parts, in between".

[24] For a similar kind of experiment see R. Parikh, 'Vagueness and Utility: The Semantics of Common Nouns' (1994) 17(6) *Linguistics and Philosophy* 521, 524.

capacity, but to the concepts themselves.[25] The meaning of the terms black, grey and white is vague. Contrary to what is the case with the epistemic issue (we do know exactly what black is, but it is often very difficult for us, sometimes impossible, to identify if a given real colour falls within our concept of black), vagueness occurs when the limits of the concepts black, grey, and white are not clear.

Sometimes it is impossible to overcome the epistemic problem; sometimes it is impossible to overcome the vagueness issue, and sometimes it is impossible to overcome both. Nonetheless we continue to construct and use typologies. Why is this so? Simply because they are useful and we need them. I do not intend to discuss all the situations in which classifications and typologies may be useful. For the goals of this article, it is enough to resort to a trivial distinction: the one between describing and deciding.

1. Describing and Deciding

Life is a continuum. Every day – from the day we are born until the day we die – we learn new things. Usually – although there may be exceptions – we are wiser today than we were yesterday. And we will be wiser tomorrow than we are today. Despite this continuous evolution, the law establishes some rules that may divide our lives, and somehow our intellectual capacity or our maturity, into different categories. A very elementary instance of these rules is the one that divides persons into adults and minors. Those who are under 18 years old are minors; those who are 18 or older are adults. It is not necessary to stress how important these two categories are for making decisions in the legal realm. Artificial and arbitrary as these two categories may be, we need them to make decisions. Nothing magical happens when we turn 18. It is just one more day in a lifelong continuous process. But legal systems all over the world chose it as a critical divide line in our lives. For biology (and for many other sciences), our life is clearly a continuum; for law, our lives consist at least of two quite different periods. The law artificially converts a continuum into discrete categories. And we usually do not see this as a problem. On the contrary: this artificial divide enables us to make many decisions. Even though our degree of maturity may be better described as a continuum beginning the day we are born, remaining wedded to the this idea (and rejecting categories) would make legal decisions almost impossible, since we would need to evaluate the degree of maturity of

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[25] Actually, the concept of vagueness is itself vague. It is not impossible to speak of an epistemic vagueness, i.e., of a vagueness grounded on the limitations in our cognitive capacities (see for instance T. Williamson, *Vagueness* (Routledge, London 1994)). However, in order to clearly distinguish the problem of vagueness from the epistemic issue, whenever I refer to vagueness this is to be understood as a non-epistemic vagueness. For a good account of the concept of vagueness, see R. Keefe, *Theories of Vagueness* (Cambridge University Press, Cambridge 2000).

every person in every single case. It is easier and more convenient to rely on categories: if you are not 18 years old, you cannot vote, get married, buy alcohol or drive a car; if you are 18, you can.

Electoral systems may of course also be grasped as a continuum. As previously mentioned, this continuum is usually organised by degrees of proportionality or degrees of distortion. In order to graphically capture the different distortion effects of different electoral systems into the translation of votes into seats, the best method is surely to organise them along a continuum. Indeed, it is enough to review at the findings of most studies on this subject to be fully convinced of this. There is usually no clear dividing line to be identified within the findings. A good example is the ranking of disproportionality organised by Gallagher,[26] which includes data from 23 countries (table 1, below).[27]

Table 1

	Country	Disproportionality (least squares index)
1	Germany	1.0
2	Netherlands	1.4
3	Austria	1.5
4	Denmark	1.8
5	Sweden	1.9
6	Italy	2.7
7	Iceland	2.8
8	Ireland	3.3
9	Israel	3.3
10	Finland	3.3
11	Switzerland	3.5
12	Norway	3.8
13	Belgium	3.9
14	Portugal	4.3
15	Luxembourg	4.4
16	Japan	5.7
17	Greece	7.7
18	Australia	9.4
19	Spain	9.7
20	Canada	13.0
21	New Zealand	14.0
22	France	14.3
23	United Kingdom	16.6

One possibility of expressing these results by graphic representation could be the following (figure 2):

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[26] Gallagher, 'Proportionality', supra (n 17) 46.
[27] Although involving elections in 23 countries, the table organised by Gallagher has actually 26 cases. I omitted France's 1986 election, Norway's elections prior to 1989, and Greece's 1989 elections (June and November), because the electoral systems adopted in those elections were either an exception to an established tradition (France 1988 and Greece 1989) or based on a system not in use anymore (Norway before 1989).
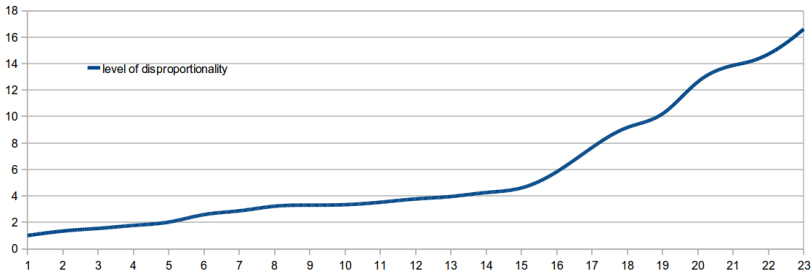
As it is easy to see, there is indeed no identifiable leap in the line signifying a clear discernible divide. Just as, in the colour example, the point where black turns to grey is not clearly identifiable, the same could be said about the point where representation ceases to be proportional. Additionally, it is a well-known fact that some majoritarian formulae may produce results that are more proportional than some proportional formulae (especially, but not only, due to the district magnitude). In fact, position 19 in figure 2 represents the level of disproportionality of the Australian system (LSq = 9.4), which adopts a majoritarian formula (alternative vote), while position 20 represents the level of disproportionality in Spain (LSq = 9.7), which adopts a proportional formula.

What I want to argue here is very simple: just as the categories black, grey and white make sense, are useful and necessary, even though we are sometimes not able to clearly identify the boundaries between them (the epistemic issue) and sometimes not able to define the boundaries of the very terms black, grey and white (the problem of vagueness), the categories majoritarian and proportional electoral systems also make sense, are useful and necessary, even though it may be very difficult to draw the boundaries between them. The impression of a continuum should not lead us to reject these categories. This would be a direct application of the previously mentioned sorites fallacy to electoral system studies.[28]

Let us say that one given index of disproportionality (indispr) ranges from 1 to 100, 1 being perfect proportionality and 100 the maximum distortion. If indispr = 1, the system is of course to be considered proportional. If indispr = 1 is to be considered proportional, then indispr = 2 is also to be considered proportional, since a difference of 1 point is no difference at all when it comes to evaluate the proportionality of a given system. If indispr = 2 is to be considered

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[28] In its most widespread version, the sorites fallacy goes like this: suppose that 1,000 grains of sand form a heap, and that 1 grain of sand does not, of course, form a heap. If 1 grain of sand does not form a heap, then 2 grains of sand do not form a heap either, since a difference of 1 grain of sand is no difference at all when it comes to defining a heap. Thus, if 2 grains of sand do not form a heap, 3 grains of sand do not form a heap either. If you repeat these steps until you reach the statement "999 grains of sand do not form a heap", you will conclude that 1000 grains of sand do not form a heap either, although you know they *do* form a heap.

proportional, then indispr = 3 is also to be considered proportional, ..., if indispr = 99 is to be considered proportional, then indispr = 100 is also to be considered proportional. This simply makes no sense.

Even if distinguishing a clear boundary may seem to be in certain circumstances arbitrary, it simply must be drawn. Even if a continuous line may describe the level of disproportionality in a more accurate way, it is simply unsuitable when it comes to making normative decisions. Which system may be adopted by the legislator of a country whose constitution explicitly prescribes the adoption of a proportional system? Could it be a system with a level of disproportionality (least squares) of 16.6, as in the last system in figure 2? If not (of course not), then this system cannot be considered as belonging to the category "proportional systems". And if it is not, there must be a divide somewhere.

Let us suppose that a constitution of a given country lays down that the parliament shall be elected in general, equal, direct and secret elections, based on proportional representation. Let us suppose further that the parliament passes an electoral act adopting a single member plurality system. The constitutionality of this electoral act is eventually questioned before the constitutional court. The government, which defends the system, argues that the constitutional provision has been fulfilled, since, according to Taagepera and Grofman, "plurality elections can be thought of as a special case of proportional representation, with M[district magnitude]=1".[29] Since it is a "special case" of proportional representation, they argue further, plurality systems should therefore be considered as belonging to the category "proportional systems". Hence, the constitutional provision should be considered as fulfilled.

It goes without saying that, at least for constitutional law, this thesis makes no sense at all. Plurality is not a special case of proportional representation; it belongs to a different category, namely the category of majoritarian systems.[30] Hence, in order to decide this kind of constitutional case, the mentioned constitutional court needs a typology of electoral systems, not a continuum.

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[29] R. Taagepera & B. Grofman, 'Rethinking Duverger's Law: Predicting the Effective Number of Parties in Plurality and PR Systems - Parties Minus Issues Equals One' (1985) 13 *European Journal of Political Research* 341, 344.

[30] Although I use here the words of Taagepera and Grofman ("plurality elections can be thought of as a special case of proportional representation", see note 29, above), I am not necessarily supposing that they would (or should) defend that such hypothetical statute is compatible with a constitution that prescribes the adoption of a proportional system. However, if the hypothetical statute had adopted a proportional formula (in single-member districts), it would then be possible to assume that many authors would consider the system compatible with the constitution, notwithstanding the fact that both systems are actually equivalent: the candidates with the single majority of the votes are elected in each district and all votes given to other candidates are wasted. In other words: despite the proportional formula, this second hypothetical system is also to be considered a majoritarian system and therefore incompatible with the constitution.

However, if legal and legislative decisions presuppose the existence of a typology of electoral system, the question to be answered is of course "where should we draw the line?".

2. Drawing a Line

Let us perform a very crude exercise and draw a line between steps 17 and 18. The figure would then look like this:
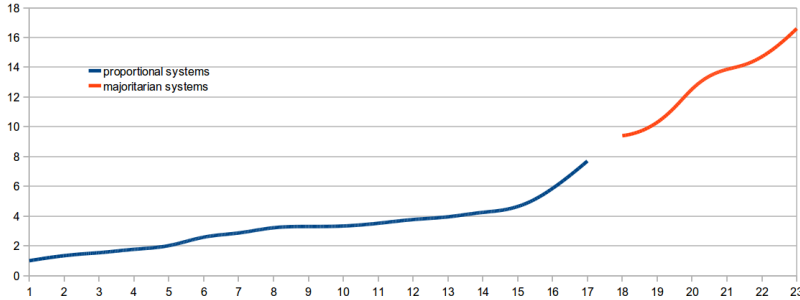
The decision for a break between steps 17 and 18 was of course not made completely at random.[31] The blue line represents countries that adopt systems with proportional formulae. The red line represents countries that adopt systems with majoritarian formulae, with the previously mentioned exception of Spain (position 19, LSq = 9.7).

Even though the graph shows no major leaps, it is interesting how even such a rough divide into two categories in figure 3 does not look that implausible. One initial objection against it could be that the difference between the levels of disproportionality of systems 17 and 18 is not so great as to justify a divide (7.7 vs. 9.4). But does the difference (in terms of maturity) between a minor who is 17 years, 11 months and 29 days old and an adult who is 18 years old justify such an important divide in one person's life? The difference is as minimal as can be. The line is nevertheless drawn at midnight. It is thus easy to realise that an objection based on an alleged negligible difference between the categories is nothing other than an objection based on the sorites fallacy.

Another objection is based on the existence of exceptions. This kind of objection can be summed up by the following question: how is it possible to insist on the existence of two different and mutually exclusive categories (proportional and majoritarian systems) if some majoritarian systems produce outcomes that are more proportional than some proportional systems?

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[31] Intuitively (and based only on the graphic properties of the line), one might have perhaps chosen to draw the line between steps 15 and 16. But this does not matter for now.

I argue that, what seems to be a flaw (a proportional formula whose outcomes are less proportional than those of a majoritarian formula) is actually not an issue. Talking of exceptions here is, for two reasons, misguided: first, because a typology of electoral systems cannot be based solely on the level of disproportionality; second, because a typology of electoral systems has to include other variables besides the electoral formula. A sound typology must, therefore, be able to look beyond the indices of disproportionality and beyond the so-called "decision rule",[32] and must reflect, rather, the "principle of representation" that underlies each category. These ideas (decision rule and principle of representation) will be analysed later on.[33] In the next section I will briefly analyse the problem just mentioned of basing a classification of electoral systems solely on the level of disproportionality of each concrete system.

3. Problems of Focusing on Indices of Disproportionality

Since the measurement of the level of disproportionality that underlies the idea of a continuum of electoral systems is based on the concrete results of each election, the position of a given country/system in the continuous line may vary strongly from election to election. For example: compared to the results from table 1 (from the 1980s),[34] the index of disproportionality (LSq) of the Spanish election of 2008 has decreased considerably (from 9.7 to 4.49).[35] At this point, one could object that what counts is not the result of one isolated election, but rather of a series of elections. But if this is so, it is first necessary to determine how many elections constitute a "series of elections" and, as a consequence, one has to reject comparing results based on asymmetric series (i.e., reject comparing indices of disproportionality of countries/systems when these indices reflect different number of elections). However, the rankings of proportionality usually do exactly the contrary. Gallagher's first ranking, for instance, was sometimes based on the results of one election (France and Norway), and sometimes on the results of two (Greece), three (Germany, Austria, Italy etc.), four (The Netherlands, Sweden, Japan etc.) or even five (Denmark and Portugal) elections.[36] The same occurs with several other rankings.[37] How are such asymmetric indices supposed to be compared?

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[32] D. Nohlen, *Wahlrecht und Parteiensystem: Zur Theorie und Empirie der Wahlsysteme* (6th edn., Barbara Budrich, Opladen 2009) 140.
[33] See section E.
[34] See Gallagher, 'Proportionality', *supra* (n 17).
[35] Result from Gallagher's database on electoral indices, available at <www.tcd.ie/Political_Science/Staff/michael_gallagher/ElSystems/Docts/ElectionIndices.pdf>
[36] Gallagher, 'Proportionality', *supra* (n 17) 46.
[37] See for instance D.M. Farrell, *Electoral Systems: A Comparative Introduction* (Palgrave, Houndmills 2001) 157–59.

Moreover, continuous lines based solely on the level of disproportionality are problematic for another reason. Drawing exclusively upon proportionality in the translation of votes into seats means closing one's eyes to other effects electoral systems have. In Farrell's ranking of proportionality of systems of 49 countries, Malawi's system, although based on a plurality formula, proved to be one of the most proportional, occupying position 8, with a very low disproportionality index (LSq = 2). Also the electoral system of the United States (based on a plurality formula as well) does better than many proportional systems (position 28, LSq = 5.43).[38] A brief analysis of these two examples may be very explicative.

Concerning the American case, which, as previously mentioned, was used by Rose as an argument against dichotomous typologies,[39] Sartori argues that, though it is possible to acknowledge that the American electoral system does represent Democrats and Republicans reasonably proportionally, any third party might quite soon discover how disproportional the system is for any new competitor.[40] Indeed, the focus on disproportionality indices, because it cannot project beyond what happens with the votes cast for each candidate or party, is not completely adequate to capture and express the effects of electoral systems that occur before the election. As it is widely acknowledged, electoral systems, especially majoritarian systems, exert on voters a kind of pressure called by Duverger "the psychological factor".[41] As Benoit has put it, "the psychological effect deals with the shaping of party and voter strategies in anticipation of the electoral function's mechanical constraints".[42] [43] The logic of majoritarian

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[38] Among others, the systems of Spain (position 29, *LSq* = 6.36), Greece (position 32, *LSq* = 7.08), Chile (position 33, *LSq* = 7.09), Poland (position 35, *LSq* = 9.79), and Mozambique (position 36, *LSq* = 9.85), all of them adopting a proportional formula, do worse than the American system.

[39] See section B, above.

[40] G. Sartori, *Comparative Constitutional Engineering: An Inquiry into Structures, Incentives and Outcomes* (New York University Press, New York 1994) 54–55; see also R. Gunther, 'Electoral Laws, Party Systems, and Elites: The Case of Spain' (1989) 83(3) *American Political Science Review* 835, 856.

[41] M. Duverger (ed.), *L'influence des systèmes électoraux sur la vie politique* (Armand Colin, Paris 1950) 14; *Political Parties: Their Organization and Activity in the Modern State* (Methuen & Co, London 1954) 224–26. For an empirical account of Duverger's psychological factor see A. Blais & R.K. Carty, 'The Psychological Impact of Electoral Laws: Measuring Duverger's Elusive Factor' (1991) 21(1) *British Journal of Political Science* 79.

[42] K. Benoit, 'The Endogeneity Problem in Electoral Studies: A Critical Re-Examination of Duverger's Mechanical Effect' (2002) 21(1) *Electoral Studies* 35, 36; K. Benoit, 'Duverger's Law and the Study of Electoral Systems' (2006) 4 *French Politics* 69, 72; see also Blais & Carty, 'The Psychological Impact of Electoral Laws', supra (n 41) 92; V.A. da Silva, 'Duverger's Laws: Between Social and Institutional Determinism' (2006) 45(1) *European Journal of Political Research* 31, 33.

[43] This is similar to what Downs called *sophisticated vote*: "[a] rational voter first decides what party he believes will benefit him most; then he tries to estimate whether this party has any chance of winning. He does this because his vote should be expended as part of a selection process, not as an expression of preference. Hence, even if he prefers party *A*, he is 'wasting' his vote on *A* if it has no chance of winning because few other voters prefer it to *B* or *C*" (A. Downs, *An Economic Theory of Democracy* (Harper Collins, New York 1957) 48).

systems is harsh regarding third, fourth or fifth parties, whose existence in such systems are usually ephemeral. Therefore, it seems unsound to consider a system like that of the United States – a system which closes its doors to new tendencies in the party system – to be more proportional than the Portuguese or Norwegian systems (as indicated by Rose's ranking), as well as than the Spanish or Polish systems (as indicated by Farrell's ranking), which, albeit some potential problematic issues (such as malapportionment or high legal thresholds), are more inclusive than any majoritarian system.

The case of Malawi is also interesting, especially because it shows how problematic a classification or a continuum based exclusively on the level of disproportionality may be. Based solely on such an index, Malawi's system is one of the most proportional in the world. As previously mentioned, Malawi occupies position 8 (out of 49) in Farrell's ranking, with a very low disproportionality index (LSq = 2). According to this ranking, Malawi's electoral system should be considered more proportional than the systems of many consolidated proportional democracies, such as Sweden (LSq = 2.13), Belgium (LSq = 3.12), Germany (LSq = 3.38), Switzerland (LSq = 3.62) and others.[44]

However, is Malawi's system really more proportional than those of Sweden, Belgium, Germany, etc.? Do its outcomes undermine a typology based on the dichotomy proportional x majoritarian systems? The case of Malawi is actually well-known in the literature on electoral systems in Africa. The reason why its results are proportional is the spatial distribution of votes. As Reynolds, Reilly and Ellis state, "under some circumstances non-proportional electoral systems (such as FPTP) can give rise to relatively proportional overall results, for example, when party support is concentrated in regional fiefdoms".[45] The example they use is precisely the one of Malawi. However they immediately reject the idea that the proportional outcomes allow us to consider Malawi's system in any aspect as a proportional system: "[t]he overall level of proportionality was high, but the clue to the fact that this was not inherently a proportional system, and so cannot be categorised as such, was that the wasted votes still amounted to almost half of all votes cast".[46]

Despite its rather proportional results, in respect to the thesis to be advanced later on, Malawi's system is neither proportional as such nor more proportional than the systems mentioned above (Sweden, Belgium, Germany, Switzerland etc.). As Reynolds emphasises, "despite the low IDs [indices of

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[44] Farrell, *Electoral Systems*, supra (n 37) 157–59.
[45] A. Reynolds and others (eds.), *Electoral System Design: The New International IDEA Handbook* (IDEA, Stockholm 2008) 27; see also A. Reynolds & B. Reilly (eds.), *The International IDEA Handbook of Electoral System Design* (IDEA, Stockholm 1997) 17. See also J. Barkan, P. Densham & G. Rushton, 'Space Matters: Designing Better Electoral Systems for Emerging Democracies' (2006) 50(4) *American Journal of Political Science* 926, 927: "Where the vote for different parties is concentrated geographically in different constituencies – as it often is in emerging democracies – the level of disproportionality can be quite modest [...]".
[46] Reynolds and others, *Electoral System Design*, supra (n 45) 27.

disproportionality] for plurality in Malawi [...], when it comes to translating votes into seats, PR is not just marginally superior to SMD plurality but substantially so. [...] This is true even in agrarian societies, where voting patterns are geographically concentrated".[47]

The American and the Malawian cases are thus good examples that highlight the shortcomings of a classification or of a continuum of electoral systems based exclusively on the level of disproportionality of concrete electoral systems. Even if we disregard the previously mentioned disparity of results among the different indices, it may, nevertheless, be argued that, because they measure basically one thing (the proportion between shares of votes and shares of seats), these indices are not able to measure how proportional a given system is as a whole, especially because they usually fail to capture the previously mentioned spatial [48] and psychological issues.[49]

E. THE CONSTITUTIONAL RELEVANCE OF THE CLASSIFICATION OF ELECTORAL SYSTEMS

In the introduction of this article, I mentioned several written constitutions that have provisions demanding that the elections to their lower legislative chambers are to be held in accordance with the principles of proportional representation. Indeed, depending on their approach to the regulation of electoral systems, constitutions may be classified into three main categories: (i) constitutions that leave the entire regulation of electoral systems to the ordinary legislatures, like the constitutions of Australia, Canada, France, Germany, India, Italy, Sweden, and the United States; (ii) constitutions that choose a given electoral system (usually proportional representation[50]), and leave only the development of its technical arrangements to the ordinary legislature, as in, for example, the previously mentioned constitutions of Austria, Belgium, Brazil, the Czech Republic, Latvia, the Netherlands, Paraguay, Poland, South Africa, South Korea, Spain, and Switzerland; and (iii) constitutions that directly prescribe a given electoral formula, whether or not indicating a principle of representation, such as the

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[47] A. Reynolds, *Electoral Systems and Democratization in Southern Africa* (Oxford University Press, Oxford 1999) 236.

[48] For the relation between the spatial issue and disproportionality indices, see for instance Barkan's, Densham's and Rushton's analysis of the Kenyan case: "Although Kenya's current districts greatly over- and underrepresent the people of different areas, the system receives a moderately low score on the Gallagher Index of Disproportionality of 6.9 (Gallagher 1991). This is because of the high spatial concentration of the vote for each party and reflects an overall pattern of different parties representing different ethnic groups or ethnic coalitions and the geographic areas in which these groups reside" (Barkan and others, 'Space Matters', supra (n 45) 933–34).

[49] Additionally, these indices measure proportionality only from the perspective of political parties and not from the perspective of individual voters (see Riedwyl & Steiner, 'Review', supra (n 22) 364).

[50] Actually, I am not aware of any constitution that prescribes the adoption of a majoritarian system.

constitutions of Ireland and Malta (STV), Norway (modified St. Laguë), and Portugal (Hondt).

Regarding the constitutions of the first group, it may be argued that issues concerning the classification of electoral systems play a minor role: if the constitution does not lay down any requirements for the electoral systems to be adopted, the ordinary legislature is almost completely free to choose the electoral system of its preference.[51] In the case of constitutions of the third group, a classification of the electoral system also plays a minor role (although maybe greater than for the constitutions of the first group), since the electoral formula has already been determined by the constitution itself. Consequently, the ordinary legislature has almost no discretion in shaping the electoral system.

It is in the case of the constitutions of the second group that a sound typology of electoral systems plays a crucial role: it provides parameters for judging which electoral systems may and may not be chosen by the ordinary legislature when regulating the constitutional article that had generically opted for a principle of representation. Therefore, a classification of electoral systems must be not only methodologically sound and correct, but also useful as a standard for this legislative decision.

Throughout this article, I have attempted to put forward three main theses on the idea of a continuum of electoral systems.

Firstly, I argued that the fact that this continuum of electoral systems is based solely on indices of disproportionality undermines its tenability. And this for two main reasons: (i) because different indices produce different outcomes and it is thus impossible to define where to locate each system along a single continuum;[52] and (ii) because, even if there were a consensus on which is the best index of disproportionality,[53] the definite unidimensional character of such

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[51] Nonetheless, some authors claim that even if a constitution does not lay down any requirement concerning the electoral system, this does not mean that any electoral system can be chosen. See for instance C. Lavagna, 'Il sistema elettorale nella costituzione italiana' (1952) 2 *Rivista Trimestrale di Diritto Pubblico* 849, 855–56; R. Bakker, 'Verfassungswidrigkeit des Mehrheitswahlrechts' (1994) 27 *Zeitschrift für Rechtspolitik* 457, 457–58; and G.H. Hallet Jr., 'Proportional Representation with the Single Transferable Vote: A Basic Requirement for Legislative Elections' in A. Lijphart & B. Grofman (eds.), *Choosing an Electoral System: Issues and Alternatives* (Praeger, Westport 1984) 114 ff. The same thesis was recently put forward by the Romanian constitutional court. In the decision 682, from June 2012, the court argued that, although the Albanian constitution does not explicitly opt for a given electoral system, the electoral reform passed by the parliament in May 2012, which prescribed the adoption of a majoritarian system for the legislative elections, is unconstitutional among other things because it is incompatible with the requirement of party pluralism.

[52] See section C, above.

[53] Although it is not possible to speak of a consensus, the least-squares index (Gallagher's index) is now so widely accepted as the most reliable that one could theoretically set aside the disparity of results among the different indices (see Lijphart, *Electoral Systems and Party Systems*, supra (n 18); G.B. Powell, *Elections as Instruments of Democracy: Majoritarian and Proportional Visions* (Yale University Press, New Haven 2000) 30; Taagepera & Grofman, 'Mapping the Indices', supra (n 19)).

indices makes them unreliable as a basis for a classification of electoral systems, as the examples of Malawi and the United States have shown.[54]

Secondly, I claimed that the mere fact that electoral systems may be understood as constructing a continuous line ranging from the most to the least proportional does not preclude the possibility of a typology of electoral systems. To think that it does preclude would be a direct application of the sorites fallacy to the electoral studies.[55]

Thirdly, I reasoned that continuum theories lose any connection with legal and legislative vocabulary. Since the organisation of electoral systems along a continuous line usually has the explicit goal of mitigating mutually exclusive types of electoral systems, any theory based on the continuum idea is useless to serve as basis for legal or legislative decisions. All linguistic connections between the vocabulary of political science and the vocabulary of law and legislation disappear. It becomes thus impossible to draw upon a classification which eliminates, or strongly mitigates, the categories "majoritarian" and "proportional" in order to interpret constitutions that still use (and will continue to use) them.[56]

Therefore, if a dialogue is to be maintained between political science and electoral studies, on the one hand, and law and legislation, on the other hand, one has to draw upon a classification or typology that maintains the constitutional vocabulary. This is unavoidable if one wants to avoid the third objection mentioned above. One easy way to accomplish this would be simply to divide the continuous line into two blocks: one block including the most proportional systems (= proportional systems) and another block composed of the least proportional (= majoritarian systems). A similar exercise has been done above.[57] Yet, it is readily apparent that though this solution could avoid the second and third objections, the first would still apply. What I argue is that to avoid all three objections, it is necessary, if not to abandon the idea of a continuum of electoral systems based on their levels of disproportionality, at least not to use it as the criteria to distinguish proportional and majoritarian systems.

At this point, the question to be answered is clear: which criteria can be used to avoid, at the same time, the three objections summed up above? Or, in other words, which criteria satisfy both the request of maintaining the constitutional vocabulary and the demand of not being unidimensional?

From the vantage point of law and legislation, the decisive step in answering these questions is to answer another, more fundamental, question: what

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[54] See section D3, above.
[55] See sections D and D1, above.
[56] See sections A and B, above.
[57] See section D2. See also Diamantopoulos, *Les systèmes électoraux*, supra (n 9) 98 ff., who constructs a classification of electoral systems by dividing the continuous line of proportionality into four blocks.

do constitutions mean when they talk about proportional representation?[58] The next sections are dedicated to answering this question.

1. The Principle of Representation

Throughout this article I have stressed the importance of the concept of principle of representation. But what does this expression mean? According to Nohlen, the definition of the principle of representation is a definition about the political aim of each system (majoritarian and proportional).[59] Accordingly, majoritarian systems aim at building a parliamentary majority for a party (or a party alliance), regardless of whether this party (or party alliance) obtained the majority of votes. In contrast, the aim of proportional systems is to reflect, as precisely as possible, the social forces and political groups in the population.[60]

This definition of principle of representation – especially for the case of proportional representation – may nonetheless be supplemented. Proportional representation is closely related to the idea of procedural fairness. And this close relationship between these ideas sends us back to Duverger: the idea of procedural fairness is incompatible with systems that exert a considerable psychological pressure on the voters.[61] As Dunn puts it, trust and the perception of fair treatment cannot be fulfilled "if a citizen's vote is wasted, i.e., fails to elect a representative, or he is pressured into selecting the lesser of objectionable alternatives due to mechanical or psychological barriers".[62] In other words, if a system exerts a psychological pressure on the voter that strongly induces her to choose a party or a candidate that is not her first preference, than this cannot be considered a proportional system.

Admittedly, concrete systems will realise the mentioned principles of representation to very different degrees. Additionally, of course sometimes we may not be sure if a given concrete system should be classified as majoritarian or proportional. One can discuss what it means to "strongly induce" someone not to choose her preferred party or candidate: for instance, does a legal threshold of 5% (as in the German system) have such an impact? There will also be disputes on which district magnitude is needed to produce proportional results or, alternatively, from which point on may the (mechanical and psychological)

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[58] Since apparently there is no constitution that prescribes the adoption of a majoritarian system (see note 50, above), the question may be initially limited to the constitutional meaning of proportional representation.

[59] See Nohlen, *Wahlrecht und Parteiensystem*, supra (n 32) 141.

[60] See ibid, 141–42; see also D. Nohlen, 'Two Incompatible Principles of Representation' in A. Lijphart & B. Grofman (eds.), *Choosing an Electoral System: Issues and Alternatives* (Praeger, Westport 1984) 86–87.

[61] For the Duverger's psychological effect, see section D3, above.

[62] K. Dunn, 'Voice and Trust in Parliamentary Representation' (2012) 31(2) *Electoral Studies* 393, 394.

effects of district magnitude be considered negligible. It may also be the case that a given system be considered by different persons (say, different judges in the same constitutional court[63]) either as majoritarian or as proportional. None of this affects the typology nor undermines the idea that the principles of representation are mutually exclusive. Not being wary of grey zones and generalizations is a precondition of constructing typologies.[64] The goal of a typology of electoral systems is to provide a conceptual basis and a theoretical framework within which the debate on a given system may take place, not to foreclose disagreement. Disagreement is pervasive in constitutional interpretation and adjudication. No index of proportionality could prevent it.

2. Constitutional Interpretation

Constitutional interpretation is not a trivial task. Unlike ordinary statutes, usually detailed and meticulous, and aiming at a high level of completeness,[65] constitutional language tends to be more open-ended and concise, intentionally to be complemented both by legislatures and courts. It is not a coincidence that whenever constitutions have provisions concerning the electoral system to be adopted for the election of a lower house of parliament, these provisions are normally restricted to the general principles that should guide the ordinary legislator in the process of drafting an electoral act.[66] Thus, usually one single constitutional article, if any at all, is dedicated to this task.[67] It is the electoral act,

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[63] As was the case in the decision 1/1991 of the Portuguese constitutional court. The court decided that the existence of two-member districts in the elections for the regional legislative assembly of Madeira is compatible with the constitutional demand of proportional representation, but six of its judges argued exactly in the opposite direction.

[64] See, for instance, G. Sartori, 'Concept Misformation in Comparative Politics' (1970) 64(4) *The American Political Science Review* 1033, 1038.

[65] I intentionally speak of a mere claim to completeness, since no legal text is complete in an absolute sense, i.e., ordinary legislation also needs interpretation to be applied. But they are nevertheless not incomplete in the same sense that constitutions are.

[66] Though it is possible, it is nevertheless infrequent that constitutions lay down some technical detail of the electoral system to be adopted. The constitutions of Ireland, Malta, Norway, and Portugal have already been mentioned as examples of a constitutional prescription of a given electoral formula. Other constitutions may also indirectly determine the district magnitude, especially in those cases in which they prescribe that the electoral districts should coincide with a given political or administrative division. This is, for instance, the case of Brazil (art. 45), Spain (art. 68, 2), and Switzerland (art. 149, 3).

[67] See, for instance, the constitutions of Belgium ("Art. 62,2. Elections are carried out by the system of proportional representation that the law determines"), Brazil ("Art. 45. The Chamber of Deputies is composed of representatives of the people, elected by the proportional system in each state, in each territory and in the federal district"), Latvia ("Art. 6. The Saeima shall be elected in general, equal and direct elections, and by secret ballot based on proportional representation"), or Poland ("Art. 96,2. Elections to the Sejm shall be universal, equal, direct and proportional and shall be conducted by secret ballot"). Constitutions throughout the world almost never go beyond such standard formulations.

usually a complex piece of legislation, which defines how a concrete system of a given country will work. Defining the electoral formula, the ballot structure, the district magnitude and maybe a legal threshold is the main task of such electoral acts.

Constitutional provisions and ordinary legislation thus play a different, and complementary, role in defining the electoral system as a whole.[68] It is a typical means-end relation. Ordinary legislation provides the means to realise the ends established by the constitution.

Bearing this in mind, it makes no sense to interpret a constitutional provision establishing that elections to the lower chamber should be held in accordance with the principle of proportional representation as being a mere demand for a proportional mathematical formula. What such constitutional norm requires is the fulfilment of a principle, the principle of proportional representation.[69] This implies, among other things, that if the ordinary legislature chooses to adopt a given proportional formula in very small districts, this electoral system does not fulfil the constitutional requirement, since it is well-known that elections in small districts are incompatible with proportional representation. This provision (proportional formula in small districts) would be therefore unconstitutional.

One could of course object and argue that this fact (distorted outcomes when a proportional formula is used in small districts) could also be perfectly captured through the use of a continuum of electoral systems, since such a system would produce a high degree of disproportionality. However, even if we set aside the persistent questions concerning the possibility of drawing a divide in the continuum and, in affirmative case, where to locate this divide, this argument is problematic for another reason: it presupposes that a given system can only be considered constitutional or unconstitutional after being adopted and applied to at least one election. Moreover, it also presupposes that, if a given constitution prescribes the adoption of a proportional system, the adopted system should be considered constitutional if its outcomes are fairly proportional, without taking other elements into consideration. I will discuss these presuppositions below.

3. Electoral Systems and Judicial Review of Legislation

Empirical data is without a doubt very important in constitutional interpretation and adjudication. Sometimes a given statute may seem to be perfectly constitutional (and may have even been declared so by a constitutional court) but, after being applied for some time, its outcomes turn out to be different from what is expected and incompatible with the constitution. Not surprisingly, sometimes a

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[68] This is no particularity of the electoral system regulation. This complementary character of constitution and ordinary legislation is actually a standard pattern in almost all legal systems.
[69] Nohlen, *Wahlrecht und Parteiensystem*, supra (n 32) 145.

constitutional court declares a statute unconstitutional years or even decades after it had come into force.

Nevertheless, decisions concerning the constitutionality or unconstitutionality of a statute – especially in those countries with a constitutional court – have often to be taken in abstract and even before a statute has been applied to a concrete case. In the electoral realm this is usually the case. I will illustrate this through a concrete example.

In 2000, the Czech parliament approved an electoral reform that considerably changed the electoral system (statute 204/2000). Among other things, the number of districts were raised from 8 to 35, with a drastic reduction in their magnitude. Less than one year later – and before any election had taken place under the new rules – the Czech constitutional court declared the unconstitutionality of the new electoral act (decision 64/2001). The court argued that the electoral reform was incompatible with the constitutional provision that prescribes that elections to the Czech lower chamber should be based on the principle of proportional representation. This decision was of course not based on any index of disproportionality, since still no election had taken place, but simply based on the knowledge that it is not possible to attain proportionality in elections within small districts (like some of the four member districts created by the new electoral act). And although the judges had resorted to simulations of possible outcomes of the new system, based on data of previous elections,[70] they explicitly recognised that this simulations could not capture the psychological effect the new system would exert.[71]

Additionally – and maybe most interesting – although the Czech constitutional court speaks of a continuum, admitting the existence of different types of proportional systems (with more or less concessions to the majoritarian principle), it also explicitly speaks of an ideal type "proportional representation". Still according to the court, only electoral systems that manifest tendencies to at least approximate this ideal type in its fundamental aspects are compatible with a constitution that prescribes the adoption of a proportional system. The system adopted by the electoral reform of 2000 did not comply with this demand[72] and was therefore declared unconstitutional.

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[70] The two major parties – the Social Democratic Party (ČSSD) and the Civic Democratic Party (ODS) – would have obtained 93% of the seats with only 60% of the votes (see K. Vodička, 'Das politische System Tschechiens' in W. Ismayr (ed.), *Die politischen Systeme Westeuropas* (3rd edn, VS Verlag für Sozialwissenschaften, Wiesbaden 2010) 287).

[71] See K. Williams, 'Judicial Review of Electoral Thresholds in Germany, Russia, and the Czech Republic' (2005) 4(3) *Election Law Journal* 191, 198. Concerning the psychological effect, see section D3, above.

[72] In the language of the court, the electoral act had adopted a system that was outside the continuum. This indicates that when the court speaks of a continuum, this should be understood as a "continuum within the category of proportional systems". For the court, therefore, the dichotomy proportional x majoritarian systems remains intact.

If the decision of the constitutional court had not been taken in 2001 and several elections had occurred under the new system, it could have been that only the two major parties would have survived in the long run, because the system was deliberately designed to be very harsh towards small parties.[73] In other words, after some time, the system would have maybe scored very high levels of proportionality. It remains nevertheless a system that does not fit into the category "proportional systems", because its aim is not to reflect the pluralism of social forces and political groups in the population. A possible high level of proportionality after some elections would be only the reflection of an artificial bipartism that the system itself had brought about.[74]

4. How Many Principles?

As has been repeatedly stressed throughout this article, the idea of a continuum of electoral systems, which waters down the categories employed by constitutional texts all over the world, is useless as a criterion for constitutional interpretation. Constitutional interpretation needs classifications that employ the same vocabulary that constitutions use. The traditional dichotomous classification, which distinguishes electoral systems as proportional and majoritarian, does this job. However, one could legitimately ask whether a trichotomous classification, which also includes the category of mixed systems, would not be a better choice. One could argue that a trichotomic classification is better for constitutional interpretation since it not only maintains the vocabulary employed by constitutional texts, but also better reflects the real world of electoral systems.

Though this question is not central for the main purpose of this article, which aims above all at arguing that we need typologies, not a continuum, yet answering it may nevertheless fulfil an important argumentative task here, namely to further clarify the concept of principle of representation. If constitutions do not usually prescribe rules, but rather principles of representation, the typology that best fits constitutional interpretation is the one whose categories correspond to these principles. This is to say that a trichotomous classification is sound only if mixed systems could be considered a principle of representation.

Let us suppose two very similar examples. In both of them, a constitution generically prescribes that the elections to the lower house of parliament should be held in accordance with the principle of proportional

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[73] The electoral reform was one of the products of the so-called "opposition pact" celebrated between the two major parties (see C. Nikolenyi, 'When Electoral Reform Fails: The Stability of Proportional Representation in Post-Communist Democracies' (2011) 34(3) *West European Politics* 607, 617; see also Williams, 'Judicial Review of Electoral Thresholds', supra (n 71) 197).
[74] More on this in section F.

representation. The difference between the examples lies in the electoral act approved by the ordinary legislature.

In the first example, the ordinary legislature passes an electoral act adopting a Germany-like personalised proportional system. Just as it is the case in the German system, the translation of votes into seats is based exclusively on a proportional formula. The majoritarian element is used only to allocate half of the available seats to the winners in the single member district elections. But these elections have no influence on the number of seats to be assigned to each party, which is to be determined by a proportional formula.

In the second example, the ordinary legislature passes an electoral act adopting a Thailand-like system, i.e., a combined system in which the proportional and the majoritarian elements are fully independent of one another (parallel system). According to this system, 75% of the seats are to be allocated by plurality elections in single member districts, and the remaining 25% of seats are to be assigned by a list-PR formula.

In the literature on electoral systems, both the German and the Thai systems are usually classified as "mixed systems".[75] But do they achieve the same principle of representation? It does not seem they do.

The Germany-like system guarantees a representation that is proportional, even if the definition of who will occupy half of the seats in parliament is based on the results of plurality elections in single member districts. Since it is only a question of "who" and not of "how many", the proportional character of the system is not affected.[76] The German-like system is thus a proportional system and therefore the electoral act adopting it is to be considered constitutional.

In contrast, the Thailand-like system features the typical characteristics of a majoritarian system, especially in regard to the amount of wasted votes and the tendency of distorting the ratio votes/seats. The Thailand-like system is thus actually a majoritarian system and therefore the electoral act adopting it is to be considered unconstitutional.

At this point, one could object that this strategy of considering the Germany-like system a proportional system and the Thailand-system a majoritarian system is nothing other than an expression of the "fear of the grey zone" (the grey zone here being a mixed system). But it is not. I am not arguing that there is no system that mixes technical elements that are typical for proportional with elements that are typical for majoritarian systems. As a matter of fact, in the examples above, both systems mix these kinds of elements, namely

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[75] See for instance M.S. Shugart & M.P. Wattenberg, 'Mixed-Member Electoral Systems: A Definition and Typology' in M.S. Shugart & M.P. Wattenberg (eds.), *Mixed-Member Electoral Systems: The Best of Both Worlds?* (Oxford University Press, Oxford 2003) 15.

[76] Just as is the case for systems like the Brazilian and Finnish, which adopt a proportional formula with open lists. The definition of who will occupy the seats distributed by a proportional formula is based on the number of personal votes each candidate obtained in the election.

elections by both list-PR and single member plurality. However, this mixture is limited to the technical level and cannot be brought forward to the level of the principle of representation. At this level, the commonalities between the systems cease to exist and one should be classified as proportional and the other as majoritarian.[77] As Nohlen has stressed, though there may be enormous variation in the (technical) means, this does not undermine the dichotomy of ends (principles of representation).[78]

Thus, if the idea of mixed systems is to survive, it can only belong to the technical level, but not to the level of principle (what could be a "mixed principle" anyway?). However, the technical level – Nohlen calls it "decision rule"[79] – has a marginal relevance for constitutional interpretation, especially, but not only, because in this level almost all electoral systems are to be considered as mixed. The Brazilian and the Finnish systems,[80] for instance, with their combination of personal vote, party candidature, and proportional formula, could also be considered as technically mixed. Yet, at the level of the principle of representation, both are proportional systems.[81]

As Lijphart and Grofman have stressed, the distinction between the principles of representation, on the one hand, and the technical functioning of electoral systems, on the other, is a crucial one.[82] For law and legislation, this distinction is simply unavoidable. In the constitutional realm, the debate on electoral systems is a debate about principles, ends and values, not about techniques.[83]

Shugart and Wattenberg, who extensively analysed the so-called mixed systems, conclude that, notwithstanding the mixture,[84] "mixed-member systems

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[77] It should be stressed that the reason for this difference in the classification is not simply quantitative. The second, Thailand-like electoral system is not to be considered a majoritarian system because the majoritarian part of it is 75%. It would continue to be a majoritarian system even if the division were 50/50, as in the Germany-like system, since the majoritarian features (especially the number of wasted votes) overshadow the proportional part. But of course the quantitative aspect also matters. The example of the Bulgarian electoral system could illustrate this. Just like the Thailand system (and unlike the German system), the Bulgarian system keeps the majoritarian and the proportional elements completely separated (parallel). But only 31 of the 240 members of the national assembly are elected by single majority in single member districts. In this case, it is the proportional features that overshadow the majoritarian ones.

[78] Nohlen, *Wahlrecht und Parteiensystem*, supra (n 32) 143.

[79] Ibid 140.

[80] See note 76.

[81] As a matter of fact, the Brazilian constitution explicitly prescribes the adoption of a proportional system (art. 45), and the Finnish system is considered "one of the most durable proportional representation (PR) systems" in the world (T. Raunio, 'Finland: One Hundred Years of Quietude' in M. Gallagher & P. Mitchell (eds.), *The Politics of Electoral Systems* (Oxford University Press, Oxford 2005) 473).

[82] A. Lijphart & B. Grofman, 'Choosing an Electoral System' in A. Lijphart & B. Grofman (eds.), *Choosing an Electoral System: Issues and Alternatives* (Praeger, Westport 1984) 7.

[83] Nohlen, *Wahlrecht und Parteiensystem*, supra (n 32) 135.

[84] They speak of "mixture of principles", but, considering the development of their arguments and their conclusions, it does not seem that they use the term in the same way as used here.

tend to 'lean' towards either majoritarian or proportional in their overall effects".[85] Not surprisingly, they have to resort to two "subtypes of mixed systems": the mixed-member majoritarian (MMM), on the one hand, and the mixed-member proportional (MMP), on the other hand.

I argue that a reading of their classification from the vantage point of constitutional law can mean only one thing: there are technically mixed systems that comply with the principle of proportional representation (MMP) and technically mixed systems that comply with the principle of majoritarian representation (MMM). The examples I used above correspond precisely with this divide. And the reasons I considered the Germany-like system a proportional system and the Thailand-like system a majoritarian can also be found in Shugart and Wattenberg. According to them, "the primary variable in mixed-member systems that separates MMM and MMP systems is the presence or absence of a linkage between tiers".[86] If the tiers are linked, as is the case in the German system, the system tends to be proportional, because the translation of votes into seats is based on a proportional formula; if the tiers are not linked, as is the case in the Thai system, then the boost received by a large party in the nominal tier tends to overshadow the proportional tier.[87] Shugart and Wattenberg then conclude: "the principle behind majoritarian systems – giving an advantage to a large party – remains in MMM systems".[88] In other words: from the vantage point of constitutional law, i.e, from the point of view of the principle of representation, MMM systems are majoritarian systems, whereas MMP systems are proportional systems, even though both may be technically mixed systems.

F. CONCLUSION: PRINCIPLES OF REPRESENTATION, CONSTITUTIONAL LAW AND LEGISLATION

Constitutions tend to speak the language of principles. It is no coincidence that in the countries whose electoral systems are considered by the literature as technically mixed, their constitutions usually are either silent about the electoral system to be adopted,[89] or directly prescribe a given electoral formula or a given district configuration,[90] i.e., it is not a coincidence that the constitutions of almost

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[85] Shugart & Wattenberg, 'Mixed-Member Electoral Systems', supra (n 75) 13.
[86] Ibid.
[87] Ibid; see also R.G. Moser, *Unexpected Outcomes: Electoral Systems, Political Parties, and Representation in Russia* (University of Pittsburgh Press, Pittsburgh 2001) 21. But this expresses only a tendency, since there are systems with unlinked tiers that may nevertheless be considered proportional (the Bulgarian electoral systems has already mentioned as such an example – see note 77, above).
[88] Shugart & Wattenberg, 'Mixed-Member Electoral Systems', supra (n 75) 13.
[89] See, for instance, the constitutions of Armenia, Germany, Hungary, Israel, Japan, Lithuania, Macedonia, New Zealand, Russia, and Ukraine.
[90] See, for instance, the constitutions of Philippines (art. 6, 5.2), Mexico (art. 52), and Thailand (arts. 98 ff.).

all those countries belong either to the first or third group of constitutions defined above.[91] As previously stressed, for these two groups of constitutions, a classification of electoral systems, no matter how defined, does not play a relevant role.

Among the nineteen countries that, according to Shugart & Wattenberg,[92] use technically mixed systems, it is possible to find only three constitutions that make reference to a principle of representation (constitutions of the second group, as defined above). Interestingly, these constitutions refer either to the proportional principle[93] or to two distinct principles of representation: the majoritarian and the proportional principles.[94] No constitution alludes to a third, hybrid principle. It will be at least odd to prescribe that the elections to the lower house of parliament were to be held "in accordance with the principle of mixed representation".

Principles of representation remain a dichotomous issue: electoral systems aim either to "attain a parliamentary majority for one party or for a party alliance" or "to reflect, as exactly as possible, the social forces and political groups in the population".[95] The means to realise these goals are as manifold as can be. This diversity of possibilities may well be expressed by the idea of a continuum or by resorting to a third category (mixed systems). This fact, however, does not affect the dichotomous typology. For constitutional purposes, even within the continuous line, or even within the category of mixed systems, each system is either majoritarian or proportional, simply because it is impossible to realise these two goals simultaneously.

If constitutions speak the language of principles of representation, it is a task of a typology of electoral systems, at least of a typology that aims at maintaining a dialogue with constitutional language, with constitutional law and with   legislative   praxis,   to   use   the   same   vocabulary.

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[91] See section E. Constitutions of the first group were those that leave the entire regulation of electoral systems to the ordinary legislatures; constitutions of the third group were those that directly prescribe a given electoral formula.

[92] Shugart & Wattenberg, 'Mixed-Member Electoral Systems', supra (n 75) 20.

[93] See the constitutions of Israel (art. 4 of the Knesset section) and South Korea (art. 41, 3).

[94] See the constitution of Georgia (art. 49, 1).

[95] Nohlen, 'Two Incompatible Principles of Representation', supra (n 60) 86–87.