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The elephant in the room

mapping the latent communication pattern in European Union studies

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- Visualising the latent communication structures in European Union studies

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Introduction

European Union (EU) studies is known to be a fragmented and interdisciplinary field (Rosamond 2006; Jupille 2006; Wessels 2006). In his famous article from 1972, Puchala summed up the state of the field with the universal metaphor of the blind men and the elephant: blind men, scholars coming from different theoretical traditions, touch upon different parts of the elephant (EC/EU) and thus portray a very different beast. None of them are mistaken, but none of them have the complete picture either. The metaphor was used to illustrate the patchy and rudimentary nature of theories on European integration (Pollack 2005, 391). At the time of Puchala's writing and in the two subsequent decades, the disciplinary history of EC/EU studies was told as a series of grand debates between theories that offered competing explanations for the trajectory of European integration (Rosamond 2000; Hooghe and Marks 2008). From the early 1990s and onwards, these great debates have gradually been replaced by a set of meta-divides along disciplinary, geographical and methodological lines (Pollack 2005; Jupille 2006; Wessels 2006; Rosamond 2006; Eilstrup-Sangiovanni 2006; Paterson, Nugent and Egan 2010).

The question of fragmentation in EU studies concerns all EU researchers, yet it has mostly been addressed by prominent scholars taking stock on the field (Rosamond 2000, 2006; Cini & Bourne eds. 2006; Paterson, Nugent and Egan eds. 2010). This paper shows that the bibliometric sociology of science provides useful methodological tools for studying the intellectual organisation of EU studies. Observers of EU studies have lamented the lack of quantitative analyses in EU research due to the lack of readily available data (Makins

1998). In the last decade, however, the volume of EU scholarship published in journals has grown substantially and there is no longer a shortage of data. Recent years have therefore seen a range of attempts to code the content of EU sources according to methodology, research topic, theory and author affiliation or discipline in order to map the development of the field (Keeler 2005; Jupille 2006; Exadaktylos and Radaelli 2009).

The burgeoning quantitative meta-EU literature is very useful, but by coding and analysing content it has focused primarily on the unit level and aggregated this in tables and figures. It has largely missed out on the relational character of journal articles. Citations among EU journal articles constitute a hitherto unexplored network of connections and clusters. Using bibliometric methods, this article applies a novel approach to mapping that actually produces a visual map.

By analysing the citation structures in four authoritative EU journals listed in the *Web of Knowledge* in the period 2003-2010, we produce a network of the mainstream sources used in EU studies. The citation network constitutes a latent structure of communication in EU studies, a specific citation practice that EU scholars acknowledge is there but nevertheless tend to leave unaddressed. The article visualises this tacit knowledge, the invisible "elephant in the room", using tools from scientometrics. This is a reflectivist exercise of holding up a bibliometric mirror to EU studies. Although it might be a myth that elephants are afraid of mirrors, a recent study confirmed that they do have the ability of mirror self-recognition (Plotnik, de Waal, and Reiss 2006).

The article proceeds as follows. Section two discusses methodology, data and anatomises the elephant according to the key sources it is made of. Section three visualises the network among these sources. Section four then examines the disciplinary clusters of

the field. Section five analyses geographical clusters in EU studies and discusses how they

may be connected to methodological and theoretical controversies in the field.

Mapping EU Studies

Bibliometric Methodology

Price, the "father of scientometrics" (Merton and Garfield 1986, vii), conjectured that

citational relations among scientific journals might reveal the disciplinary delineation

among disciplines. Price envisioned that aggregated citation relations between

journalsmight contain "the very structure of science" (Price 1965). Scientometricians have

since used journals as indicators of disciplines (Price 1965; Leydesdorff and Rafols 2009).

This article proceeds from Price's ideal but is hesitant to conclude anything about the

intellectual structure of EU studies. Rather, we argue, a citation analysis tells us more about

a social practice in EU studies, and how citing the right sources is an important element of

being accepted as an EU scholar. We use the term 'communication practice', rather than

'intellectual structures', because citation structures are not necessarily knowledge

structures. Price was also attentive to the fact that some authors do not cite everything they

use, that some may cite works that have not been consulted (Price 1986, 70) and, therefore,

that the references included in the bibliography are not necessarily indicative of the

knowledge base of an article.

Apart from analysing journal citation data, there is little consensus among

scientometricians about a single best way for doing so. Data collection, inclusion

thresholds, parameter choices and clustering algorithms lead to different results

(Leydesdorff 2005). Mapping EU studies bibliometrically is thus not an empirical matter of

'finding' the (sub)-discipline, but rather one of constructing a map of mainstream EU studies. There is a wide range of choices involved in drawing a network map, choices that may all make an impact on the final map.

In an analysis of citation structures in EU studies it is important to study not only journals, but also remain open towards non-journal sources. Therefore, we do not analyse journal-to-journal citations only. Another reason why we will not study journal-to-journal citations within a predefined set of EU journals is that non-EU journals might also play a significant role. If non-journal and non-EU sources are as frequent as we expect, this calls for a methodology that investigates the entire bibliography of a certain article.

Bibliographic coupling focuses on relations among cited sources in bibliographies. It assumes that two sources are similar if they often occur together in various bibliographies. It is the study of *co-occurrences* in bibliographies that sets bibliographic coupling apart from regular citation analysis that studies *directed* citations from journal A to journal B. Bibliographic coupling studies *undirected* citations, that is, how often journal A and journal B co-occur in the bibliography of journal C. In other words, we study *similarity* between A and B, not *distance.*

Data

To construct a bibliometric network for EU studies, a number of EU journals to harvest data from must first be demarcated. This involves the necessary, but unfortunate, *a priori* demarcation of what counts as an EU journal. There is no natural baseline from which to separate EU journals from non-EU ones, but since the number of EU journals is still limited we have chosen to rely on classifications made in secondary sources. Rosamond (2006, 12)

classifies the following six English language journals that "self-identify as outlets for the discussion of EU politics/European integration":

Title	Founded	Current editorial base	ISI status
European Foreign Affairs Review	1996	UK	No
European Integration Online Papers	1998	Austria	No
European Union Politics	2000	Germany/UK/US	Yes
Journal of Common Market Studies	1962	UK	Yes
Journal of European Integration / Revue d'Intégration Européenne	1978	UK	No
Journal of European Public Policy	1994	UK	Yes

We include data from the three journals that are included in the ISI *Web of Knowledge*. Others have made the case that *West European Politics (WEP)* has transformed itself into a journal strongly concerned with the EU (Hooghe and Marks 2008, 112; Keeler 2005, 559), and for this reason we have chosen to include it in our data set. We explore the citation practice of the four EU journals *Journal of Common Market Studies (JCMS), Journal of European Public Policy (JEPP), European Union Politics (EUP)* and *West European Politics (WEP)* with the awareness that this produces an image of the mainstream in EU studies. However, if we find fragmentation where we expect cohesion and disciplinarity in the mainstream journals, this provides stronger support for the perception that EU studies is

in fact a disintegrated and interdisciplinary field. In this sense, mainstream journals are the critical cases. Using the ISI Web of Knowledge data, we thus harvest bibliographic data from *JCMS*, *JEPP*, *WEP* and *EUP*.

A complete study of EU scholarship cannot be limited to scholarship published in these self-defined EU journals. For this reason, other studies have limited the analysis to select EU-related articles published in a wider range of journals (Keeler 2005). More journals could also have been included from International Relations or Comparative Politics. *International Organization* (*IO*), for example, has published several important articles on the EU and European integration, and a strong case could be made for including it (Rosamond 2006, 13). One could also include the bibliographies of EU books. Further bibliometric research along these lines requires a demarcation and selection of EU books, as well as additional coding, since citation data from books is not available in the Web of Knowledge. Generally, however, we have chosen to be restrictive by only focusing on an exclusive sample of journals as the bibliographic coupling method provides a workable solution to the problem of demarcation. Because we examine the entire bibliographies, important books in the field as well as journals such as *IO* and *American Political Science Review* (*APSR*) will be included if they are central in the bibliographies of articles published in the four seeded journals. These four journals represent the mainstream in EU studies and our network map will therefore produce a somewhat 'mainstreamed' image of the field, but this is not an uninteresting place to study fragmentation and clustering.

The four seed journals are all covered in the database from 2003 (when EUP was included). We thus harvest articles from 2003 to the most recently completed volume (2010). The data set includes all types of sources with references. This results in a data set

containing 2,561 documents with a total of 66,162 cites, most of which go to sources that receive only one cite. Therefore, we look only at cites that go to sources cited more than once. This reduces the set to 48,609 cites distributed in 5,666 sources. Some studies treat self-citations differently from other citations (Leydesdorff and Akdag Salah 2010), and according to the Web of Knowledge the four journals studied here all cited themselves more than any other source in 2010. This is an interesting trend, but we have chosen to leave this aspect out of the visualisation.

The bibliographies have long tails of distribution and therefore the cited sources must be limited for computation and visualisation purposes. To produce a visually parsimonious network, and to avoid computing a complex 5,666 by 5,666 matrix, we use the processing software BibJourn (Leydesdorff 2007) to limit the network to sources that at the minimum account for a certain percentage of the total references. Our approach in the initial data processing was to vary the threshold levels to see how the data behaved at different thresholds in order to produce a network that is neither too visually complex nor too parsimonious. The following visualisation uses a threshold of 0.2%, that is, only sources that account for the minimum 98 (0.2% of 48,609) references are included. After limiting the set to include only references that contribute to at least 0.2% of total citations, the matrix consists of 45 units (a 0.1% threshold results in a network of 98 sources, while a 0.3% threshold results in 27 sources). Table 1 shows these 45 most cited sources.

Table 1. Most cited sources in JCMS, JEPP, EUP and WEP (2003-2010).

Cites	Abbreviation in Network	Title	Editorial base	Source type	Keeler's list
2553	J Eur Pub Pol	Journal European Public Policy	EU	Journal	Yes
2012	J Common Mark Stud	Journal Common Market Studies	EU	Journal	Yes
1326	West Eur Polit	West European Politics	EU	Journal	Yes
1184	Int Organ	International Organization	US	Journal	Yes
1009	Eur Union Polit	European Union Politics	EU	Journal	Yes
872	Eur J Polit Res	European Journal of Political Research	EU	Journal	Yes
696	Am Polit Sci Rev	American Political Science Review	US	Journal	Yes
638	Comp Polit Stud	Comparative Political Studies	US	Journal	Yes
493	Am J Polit Sci	American Journal of Political Science	US	Journal	Yes
457	European Integration	European Integration			No
456	Brit J Polit Sci	British Journal of Political Science	EU	Journal	Yes
317	Governance	Governance	US/EU	Journal	Yes
293	J Public Policy	Journal of Public Policy	EU	Journal	No
287	Eur Law J	European Law Journal	EU	Journal	No
281	World Polit	World Politics	US	Journal	Yes
267	Communication	Communication	EU/US	Policy	No
267	Polit Stud-london	Political Studies	EU	Journal	Yes
224	J Polit	Journal of Politics, The	US	Journal	No
210	Public Admin	Public Administration	EU	Journal	Yes
194	Financial Times	Financial Times	EU	Newspaper	No
181	Elect Stud	Electoral Studies	US	Journal	No
177	Eur J Int Relat	European Journal of International Relations	EU	Journal	No
177	Policy Making Europe	Policy-Making in the European Union	EU	Book	No
173	Party Polit	Party Politics	EU	Journal	No
169	Am Econ Rev	American Economic Review	US	Journal	No

164	J Theor Polit	Journal of Theoretical Politics	US	Journal	No
144	Comp Polit	Comparative Politics	US	Journal	Yes
144	Transforming Europe	Transforming Europe	EU	Book	No
140	Choice Europe	The Choice for Europe: Social Purpose and State Power from Messina to Maastricht	US	Book	No
134	Politics Europeaniza	The Politics of Europeanization	EU	Book	No
132	Scand Polit Stud	Scandinavian Political Studies	EU	Journal	No
128	Common Mkt Law Rev	Common Market Law Review	EU	Journal	No
126	European Commission	European Commission	EU	Book	No
123	European Parliament	European Parliament	EU	Book	No
108	Econ Policy	Economic Policy	EU	Journal	No
106	European Foreign Aff	The European Foreign Affairs Review	EU	Journal	No
106	Int Stud Quart	International Studies Quarterly	US/EU	Journal	No
104	Int Aff	International Affairs	EU	Journal	Yes
103	Eur Econ Rev	European Economic Review	EU	Journal	No
103	European Union Power	European Union: power and policy-making	EU	Book	No
103	Public Choice	Public Choice	US/EU	Journal	No
102	J European Integrati	Journal of European Integration	EU	Journal	Yes
101	Q J Econ	Quarterly Journal of Economics	US	Journal	No
101	Varieties Capitalism	Varieties Capitalism	EU	Book	No
96	Patent	Patent	EU	Policy	No

Not surprisingly, the four seeded journals themselves *JCMS, JEPP, EUP* and *WEP* are among the most cited and will thus be included in the network. We also find journals

that are not exclusively EU journals, but nonetheless publish articles relevant to EU scholars as they are highly cited by the four seeded EU journals. We find 16 of the 24 more broadly EU-relevant journals studied by Keeler (2005).

Moreover, we find a range of books and other sources that are widely used in EU communication practice. As illustrated in the column 'source type', the most cited sources in EU studies cover a range of different source types: journals, books, policy documents and a newspaper. As expected, journal sources make up most of the top cited sources. Books still constitute a significant part of the most cited sources, however. Most books in the EU pantheon are general textbooks, edited volumes or particular subject areas within the field. The only monograph, and the third most quoted book, is Moravcsik's 'The Choice for Europe: Social Purpose and State Power from Messina to Maastricht' from 1998. Even more intriguing are the books that seem to be missing. It is said that elephants never forget, yet some of the monographs that are widely perceived as influential in the field such as Haas' (1958) 'The Uniting of Europe' (76 cites), Lindberg and Scheingold's (1970) 'Europe's Would-be Polity' (29 cites), or Milward's (1992) 'The European Rescue of the Nation-State' (26 cites) are no longer to be found among the most cited sources. EU studies also make use of policy documents, predominantly from the EU institutions, although they receive relatively few references. This is not to say that policy-related sources are not important in EU studies, but simply that they are diverse and occur under different titles, which makes them disappear from a mapping of the most cited sources. Finally, we find one newspaper in the table, the *Financial Times*, which gets 194 cites.

Networking the Communication Structure in EU Studies

Having described the general features of the most cited sources, the next step in the network analysis is to visualise the relations between these 45 units. The relations among cited sources can be computed in various ways, most prominently as either distances or similarities. A distance could, for example, be the number of references exchanged between two journals. This relational measure is often referred to as Euclidean distance. It is the ordinary distance between two points as measured with a ruler and is thus very sensitive to size. In a Euclidean space, however, two journals with similar distributions but different sizes would be counted as distant (Leydesdorff and Rafols 2011, 13) and therefore the network space must be normalised before visualisation. This paper focuses instead on the *similarity* of journals by measuring their co-occurrences in bibliographies. Normalisation in terms of similarity patterns is important to observe the latent structures in the data. Ahlgren et al (2003) proposed the cosine for this purpose and there is growing consensus among scientometricians that cosine normalisation is preferable (cf. Leydesdorff 2007, 1305).

The cosine normalisation transforms all values to a 0-1 scale. It is important to understand that the cosine value is a measure of *similarity*, not distance (Leydesdorff and Rafols 2011, 14). This bibliometric procedure groups references so that most similar journals are arranged closest to each other. The matrix thus becomes symmetrical or undirected, which means that the matrix value of the cell *JCMS* x *JEPP* is equal to the value of the cell *JEPP* x *JCMS*. The network map is then drawn using the cosine similarity values among journals (or books) in the total EU environment. The visualisation may be somewhat disappointing at first, because all journals are related with a cosine value

however low it may be in some cases. Therefore, a minimum cosine threshold must be set in order to remove the weakest links and visualise the latent structures in the network. Again, there is no universal cosine threshold and the following threshold of cosine larger than 0.2 is chosen because it enhances the visualisation.

The final step is the visualisation of the units, their positions and size. The visualisations below use the layout algorithm of Kamada & Kawai (1989) in Pajek. Kamada-Kawai is a force-directed layout algorithm that calculates the force between any two units. It then minimises the energy of the total network by an iterative process in which the maximum tension is moved until equilibrium with the least tension is reached. For the sizing of units, we use betweenness centrality, a measure often used to measure centrality in communication networks. The idea is that if communication always passes through the shortest available path, then a unit that lies on several shortest paths *between* other pairs of units is central because it controls the communication flow between the pairs (Freeman 1979, 224). These procedures result in the following network.
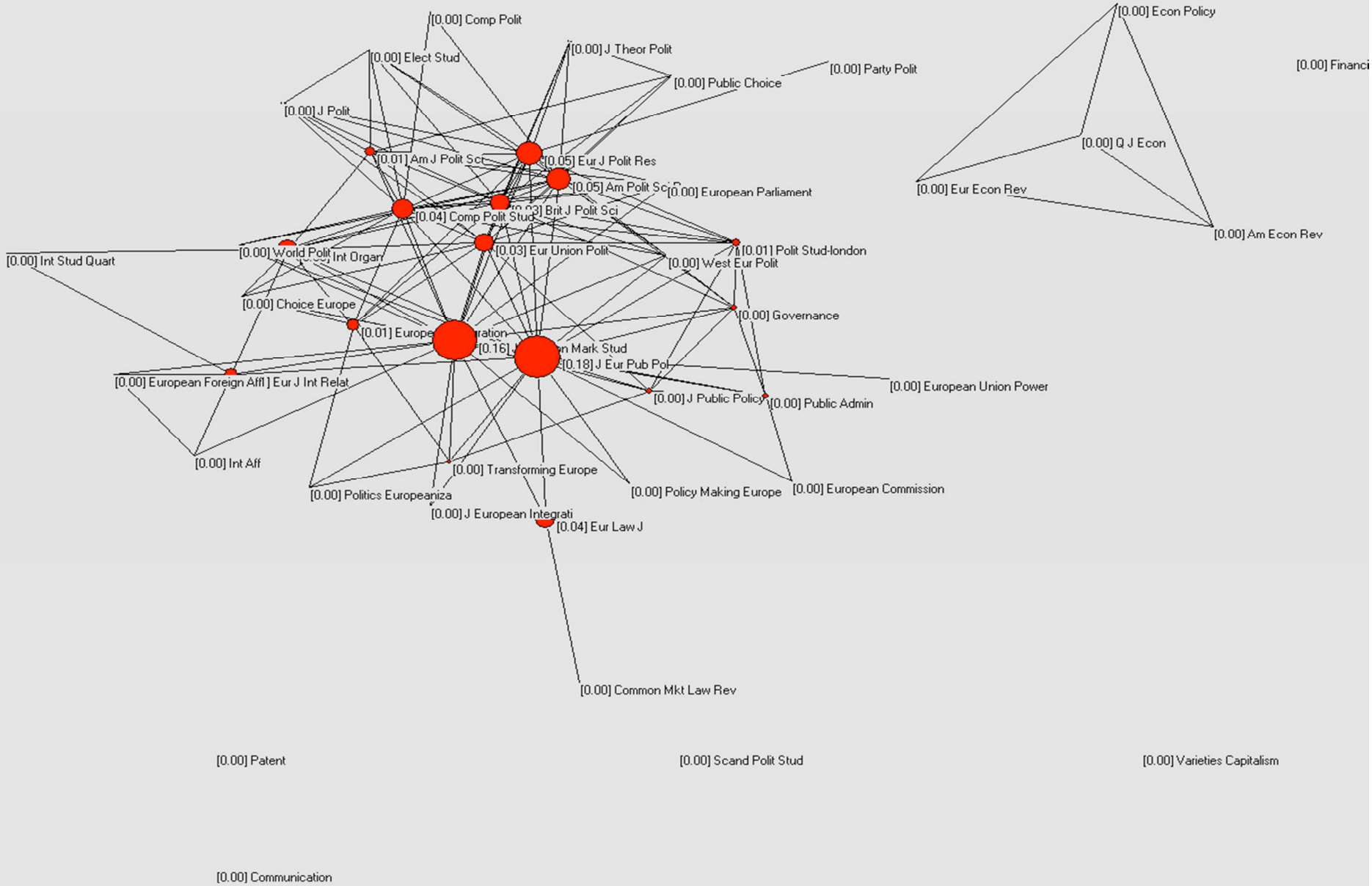
Figure 1. EU network 2003-2010

The Center of EU Studies

Journals are not only the largest component of EU studies as measured in terms of the number of cites. As figure 1 shows, they also make up the central and vital part of the elephant. The journals at the centre of the network are functionally indispensable and obligatory points of passage. The high betweenness centrality of *JEPP* (0.18) and *JCMS* (0.16), in particular, indicates their general and integrating function as nodes that hold the various sub-fields of EU studies together.

Note that the other two seed journals, *EUP* and *WEP*, play a far less integrating and general role for EU communication as shown by their lower betweenness centrality. *EUP* is located closer to the political science cluster, while *WEP,* despite having the third largest number of cites, plays a less central role for the EU network. This also highlights the difference between *impact factor* and *betweenness centrality*. *Impact factor* is calculated on the basis of the average number of citations to journal articles within a given interval (normally two years). Our study focuses on cites to all volumes, not only the two most recent. Moreover, impact factor takes into account cites from all journals in the Web of Knowledge, while our study focuses on cites only from EU journals. *Betweenness centrality* in the network above thus measures the centrality of a journal in the *EU network*. High betweenness centrality indicates that a journal is on the shortest paths *between* a large number of other units; it is a generic bridge that is cited along with a range of different sources and thus connects these other units. Betweenness centrality can thus be an indicator of whether a journal has a general communicative function for the entire network or a more specialised function in the network.

To exemplify the difference, *WEP* (impact factor 1.558) and *EUP* (impact factor 1.550) have higher impact factors than *JEPP* (impact factor 1.541) and *JCMS* (impact factor 1.274) in

2010. But the latter two are more important for communication in EU studies as measured by

betweenness centrality where *JEPP* (0.18) and *JCMS* (0.16) score much higher than *EUP* (0.03)

and *WEP* (0.00). In other words, among the 45 journals and books in the network, *JEPP* is on the

shortest path between two of them in 18% of the possible cases.[1] The above-mentioned EU

books do not play an equally integrative role for EU studies as the journals do. All books in the

pantheon are placed in the periphery or semi-periphery of the network, indicating that they are

not vital 'organs' of the beast, but are nevertheless important 'bloodstreams' for communication

in the field.

Disciplinary clusters in EU studies

Bibliometric mapping is a useful tool for identifying and visualising sub-disciplinary clusters

within a research field such as EU studies. When interpreting the network sources according to

their main disciplinary focus, three sub-disciplinary clusters materialise outside the centre of the

network. In the west end of the map, one can observe an International Relations cluster

comprising *European Journal of International Relations, The European Foreign Affairs Review,*

International Studies Quarterly, International Affairs, World Politics and with *International*

Organization (0.3) as the hub that connects to the centre. In the north end of the map, we find a

cluster of journals concerned with Comparative Politics such as *Comparative Political Studies*

and *Comparative Politics* and a considerable number of more generic Political Science journals

such as *European Journal of Political Research, American Political Science Review, American*

Journal of Political Science and *British Journal of Political Science.* In the east end of the map,

we find a cluster containing three Public Administration/Policy journals: *Journal of Public*

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[1] This is also the case if we only look at 2010, and not the aggregated data from 2003-2010.

Policy, *Governance* and *Public Administration*. The Public Administration cluster is primarily linked to the EU core journals via *Journal of European Public Policy*, which is concerned with public policy in Europe. The map gives a clear indication that EU studies draws on the three main sub-disciplines of Political Science: International Relations located in the west, Comparative Politics which is associated with generic Political Science (the two are often conflated) in the north and Public Administration in the east.

Besides the three sub-disciplines, the field is also connected to the disciplines of Economics and Law. This does not come as a surprise as the EU is a potent political and legal system very much concerned with regulating economic issues. Economics journals are located in an island detached from the main network, however. They are connected to each other but not the main network. This indicates that their use is specialised; they are often quoted together but not along with a broad range of the remaining sources. The connection to economics journals may not only cover substantive economic issues related to the EU but also formal and statistical methods borrowed from the discipline. Finally, at the far south of the map, we find a small law cluster comprising *European Law Journal* (0.04) and *Common Market Law Review*. The former attaches the two to the network via *JEPP* and *JCMS*.

The network is revealing in the disciplines it excludes as well. For example, it excludes journals from History and Sociology. This gives weight to the argument of scholars who have pointed to the need for greater interdisciplinary dialogue between these two disciplines and EU studies (Kaiser 2008; Saurugger 2009). Clearly, EU studies is ideationally connected with history and sociology, as most noticeably expressed by the two branches of neo-institutional theory 'historical institutionalism' and 'sociological institutionalism' (Aspinwall and Schneider 2000). From the perspective of the EU citation network, the aspirations for interdisciplinary dialogue

between a wide range of social science disciplines in the founding editorials of both *JCMS* and

JEPP (Rosamond 2006, 12) have only been fulfilled as sub-interdisciplinarity within political

science. Calls for interdisciplinarity in EU studies are regularly made (Warleigh-Lack and

Phinnemore 2009) and interdisciplinary synergies seem to be a keyword for funding agencies,

but some observers have argued that this is unlikely to be fulfilled in the nearest future due to the

structural organisation of academia in disciplinary sub-clusters (Paterson, Nugent and Egan

2010, 401).

The network visualisation also reveals a number of subject clusters in EU studies. Some

topical clusters have a more permanent status, while others fluctuate with the agenda of the EU.

Looking at the more lasting topical clusters in the annual data, two stand out. The first is a cluster

of legislative studies. This comprises journals and books which are concerned with legislative

practices broadly and within the EU, including *Electoral Studies, Party Politics, the Political*

System of the EU by Simon Hix (1999, 2005) and books on the European Parliament. The

legislative studies sub-cluster is part of the Political Science and Comparative Politics cluster

with strong linkages to *European Union Politics.* Despite being a strong sub-cluster that stands

out distinctly in several individual years, it is not strong enough to make it onto the aggregated

map.

A second sub-cluster of Europeanisation studies appears distinctly both on the aggregated

map and on the annual maps. Europeanisation is a pluralist research agenda, which contains

studies focusing on the impact of the EU on the member states (Börzel and Risse 2006). The

research agenda of Europeanisation has become increasingly important in the last decade and

two of its pioneering edited volumes can also be found on the aggregated map: *Transforming*

Europe: Europeanization and domestic change edited by Green Cowles, Caporaso and Risse

(2001) (144 cites) and *The Politics of Europeanization* edited by Featherstone and Radaelli (2003) (134 cites). As well as these, *Europeanization – New Research Agendas* edited by Graziano and Vink (2008) (56 cites) also meets the threshold and is a part of the map in 2008 and 2009. *Differential Europe* edited by Héritier et al. (2001) (48 cites) meets the threshold in 2005. The Europeanisation cluster has strong relations to *JEPP* and *JCMS*. Moreover, the two pioneering books are often quoted together with *Journal of Public Policy*, and generally the Europeanisation research agenda is related to the sub-cluster of Public Administration sources. An obvious question is whether Europeanisation should be perceived as an autonomous field on an equal footing with EU studies or as a part of it. A definitive answer cannot be given based on citation data, but it does suggest that Europeanisation is a distinct research agenda at the nexus of EU Studies and Public Administration.

Other subject clusters wax and wane with the agenda of the EU. The Open Method of Coordination (OMC), a new mode of governance, is an instructive example (Citi and Rhodes 2006). A significant number of references are made to the edited book by Zeitlin, Pochet and Magnusson (2005): *The Open Method of Coordination in Action: The European Employment and Social Inclusion Strategies*, in 2007 and 2008. This fits very well with a study by Jensen & Koop (2011), which shows that the OMC as a research area has been on the rise since 2000 but begins to dip from 2009 and onwards as the soft law loses attraction. The maps from 2007 and 2008 show that the book is related to *JCMS* but mostly quoted together with *European Law Journal* and *Journal of Legislative Studies*, not surprising given that the OMC is a new soft law instrument studied by both political scientists and lawyers.

Geographical and methodological clusters

The map also confirms the dominance of Anglophone sources, as noted elsewhere (Keeler 2005; Wessels 2006: 235; Rosamond 2006): English seems to be the *lingua franca* in EU studies as sources in other languages do not make it onto the aggregated map. Looking at the individual years, only a few non-Anglophone sources such as *Politische Vierteljahresschrift* (2004 map), *Zeitschrift für Internationale Beziehungen* (2004 map), *Revue Française de Science Politique* (2005 map), *Il Mulino* (2006 map) are among the top sources and even so they still are placed at the margin of the network. The Anglophone bias in communication practices is somewhat surprising considering the diversity of EU scholars' nationalities. One should not equate communication practices with knowledge structures, but mainstream EU studies may miss out important information reservoirs if non-English research is not disseminated to peers via the authoritative journals. Despite their Anglophone commonalities, there seems to be a divide between European and American-based journals, however.

By dividing journals and books on the map according to whether the sources are based in the US or Europe, we can identify a clustering in terms of the geographical base of journals. The geographical base of a journal can be determined on the basis of several criteria, such as by looking the composition of the editorial board to see whether it is dominated by American or European scholars (see Rosamond 2006 on this); its publishing base or even its title may also give an indication, as in the cases of *APSR* or *European Journal of Political Research*. For books, we have looked at the author or editors to establish their origin.

A geographical divide can be observed between the north west end of the map, which is dominated by American-based journals and books, and the rest of the map which is dominated by European-based journals. This shows an interesting latent structure in how EU scholars

communicate. Consciously or not, sources based in the US tend to be used together in the same

bibliographies, as do sources based in Europe. There is some overlap between the two, of course,

but there is strong bibliometric support for the existence of a transatlantic divide in EU studies.

How can we interpret this significant clustering? Network analysis cannot say anything about the

content of journals. But geography itself is hardly the reason for this structure; the *geographical*

gap is probably correlated with the *methodological* and *metatheoretical* divides as suggested by

Wallace (2000) and Verdun (2003, 2005).

A number of scholars have pointed to the existence of a *geographical* divide in EU

studies between Americans and Europeans (Wallace 2000b, 102; Verdun 2003, 2005; Keller

2005; Rosamond 2006 Jupille 2006). What exactly constitutes the transatlantic divide and how to

measure it empirically differs, however. Keeler (2005) approaches the *geographical* gap by

examining the extent to which American or European scholars have dominated the field over

time. His data shows that American-based scholars have indeed dominated EU studies

historically, but that European scholars have been catching up in recent decades. Jupille (2006)

confirms the US dominance and demonstrates that scholarly styles do indeed differ in the US and

Europe. Wallace's (2000) and Verdun's (2003, 2005) interpretation of geographical divides is

strongly related to a methodological and metatheoretical divide in EU studies. To them,

American political scientists aspire towards naturalistic science by favouring nomothetic

explanations established by deductive and parsimonious theory-driven research. In contrast, the

European version of political science is closer to the humanities ideal of idiographic explanations

developed through rich case studies (Rosamond 2006, 16-17). The methodological gap is part of

a larger debate about which scientific enterprise is most fruitful in EU studies. One scientific

enterprise favours the model of mainstream political science according to which the EU should

be analysed as a polity like any other, a model of systematically testing standard political science theories through methods relying upon positivist rules of causal inference (Hix 1998; Pollack 2005). This stands in stark contrast to the 'pluralist model' that emphasises the unique and complex nature of the EU and argues that it is best understood using a non-positivist approach (Rosamond 2006, 14-17).

Network analysis is strongest as a formalistic method and thus cannot say anything about the content of journals, much less their methodology or meta-theoretical commitments. Looking into the official aims and scopes of journals may provide an indication as to whether they subscribe to the pluralist or mainstream model (cf. Rosamond 2006, Jupille 2006), although most editors tend to embrace some version of 'pluralism' in their editorial statements. Another solution is to read and code whether journal articles apply a pluralist and a mainstream model, although such a coding will ultimately be an idiosyncratic exercise. Jupille (2006) studies the methodological divide in EU studies by coding content in five journals publishing a significant number of articles on the EU according to whether they apply a qualitative, statistical or formal modelling approach and reaches the conclusion that *JEPP* (95%) and *JCMS* (87%) mainly publish qualitative work whereas *EUP* publishes a majority of articles using statistical or formal modelling methods (68%). There may also be a qualitative-quantitative gap in the network corresponding to the pluralist-mainstream gap. Such a pluralist-mainstream divide in the network map above could be illustrated by drawing a horizontal demarcation line cutting across *JCMS* and *JEPP*. The betweenness centralities of *JEPP* and *JCMS* indicate that they are widely used by EU scholars coming from diverse disciplines and methodological traditions and are thus at the centre of such a divide. Sources placed south of the line are arguably more pluralist, whereas

sources located north of the line are more inclined to publish articles based on the mainstream

political science model as outlined above.

The location of some European-based journals in the 'US domain' may even support the

argument about a pluralist-mainstream divide. Those few European-based journals in the north,

such as *EUP, European Journal of Political Research* and *British Journal of Political Science*

arguably publish articles following the mainstream political science model, and in that sense they

may be more 'American' than 'European'. On the other hand, the journal *Governance* constitutes

an 'US enclave' in the ocean of European sources. This is hardly astounding because it is part of

the Public Administration cluster that by and large favours idiographic explanation through a

limited number of in-depth case studies over causal nomothetic explanation based on large-n

observations.

The dispute between the mainstream and the pluralist models is often linked to a

purported *theoretical* divide in EU studies between constructivist and rational choice scholars

(Pollack 2005; Jupille 2006; Rosamond 2006). Constructivists point to the fact that rational

choice misses how the EU endogenously reshapes national preferences and that outcome cannot

be predicted ex ante (Christiansen et al 2001). Rational choice scholars in turn have questioned

the ability of constructivists to generate and accumulate scientific knowledge on the EU due to

the lack of falsifiable hypotheses. Despite the strong connection between the debates, one should

not conflate the *methodological* and the *theoretical* divide as constructivists may apply

mainstream methods and vice versa (Checkel and Moravcsik 2001; Jupille 2006). *EUP* is widely

known to be a journal for rational choice scholars belonging to the mainstream camp given its

self-defined role devoted to publishing articles following positivist rules, and a strong attachment

to cutting-edge techniques in political science (Rosamond 2006, 12-13, 19). The journal has

strong linkages to the Political Science and Comparative Political cluster with relations to *British Journal of Political Science*, *European Journal of Political Research*, *American Journal of Political Science* and *Comparative Political Studies*. Furthermore, it functions as a bridge that connects these mainstream political science journals to the centre of the EU network constituted by *JEPP* and *JCMS*.

In contrast, *European Journal of International Relations* in known for having a strong magnetic effect on constructivist scholars, although it does not represent any one specific tradition or approach. The journal is placed in the IR cluster and arguably represents the pluralist model as it is often quoted together with *IO*, *International Affairs*, *JCMS* and *JEPP*. However, most of the journals on the map are difficult to label according to their theoretical affiliation and there are disagreements about their status. *IO*, for example, has attracted and publishes a significant amount of work from scholars coming from both the rationalist and constructivist camps.

Conclusion

Based on data harvested from four mainstream EU journals in the period 2003-2010, the article has identified a number of clusters in EU studies. The paper shows that a few core journals, in particular *JEPP* and *JCMS,* constitute the key nodal points for EU communication practice. They hold the field together and give it a common language. In addition to these few pedigreed EU journals, EU communication still relies on a range of sources from other sub-disciplines of political science, including International Relations, Comparative Politics and Public Administration as well as two more autonomous disciplines: Economics and Law. The network analysis shows a clear Political Science hegemony. Even though we have seeded data only from

a small set of mainstream and political science related EU journals, it is remarkable that approaches such as Sociology or History of the EU are missing from the network.

We find strong evidence for a *geographical* clustering in EU studies between US and Europe as journals and books tend to be located in continental clusters. The geographical cluster can be interpreted as a correlate to methodological and metatheoretical clusters. Despite the formalistic limits of the bibliometric approach, we find support in data and literature that a divide can be observed in EU studies where a demarcation line cutting through *JEPP* and *JCMS* divides the field into a northern sphere containing American mainstream and positivist sources and a southern sphere comprising European pluralist and non-positivist journals.

This study opens up a number of avenues to explore. It would be instructive to create a time series comprising bibliometric data for several decades which would enable us to trace changes in the relative importance of sub-disciplines within the field as well as fluctuations in topical clusters. A diachronic analysis would allow us to judge the relative importance of changes in the beast (external factors) and in the discipline (internal factors) which are driving changes in the contour of EU studies (Wessels 2006). Moreover, more content-sensitive studies are needed to illuminate the constitutive features of the geographical and methodological divide in EU studies.

The communication structure in EU studies has its own specifics compared to bordering sub-fields such as International Relations (cf. Kristensen 2012). The network of journals mapped here has an important communicative function for the stabilisation of scientific statements within EU studies. If science is a matter of creating statements that are difficult to refute, this is partly obtained by attending to sociological aspects of scientific practice. Attending to the correct practice and standard of citation is one element of this, as is correct writing style, taking note of

existing knowledge in literature reviews, looking for weaknesses in others' research and gaps in the field, and several other everyday activities of academics. Statements are more difficult to refute when they are bound up with things like laboratory experiments, statistical instruments of science or field studies. Similarly, journal citations are artefacts for the people who use them to establish firm ground beneath their academic writings. Cites are no unambiguous indicator of quality. They go to the best, most important and innovative work, but also to the most criticised work. Citations also serve a social function: they can be a way of making alliances with journal editors and referees. This partly explains the high degree of journal self-citations. The latent structure of communication in EU studies is the product of how scholars operating in the EU field conduct research, sometimes strategically, sometimes not so strategically. It is hard to overlook and yet rarely addressed, like the fabled elephant in the room.

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