
ESTUDIOS / RESEARCH STUDIES

Evolution and research trends of paradiplomacy. A bibliometric analysis

Juan Camilo Mesa Bedoya*, Carlos Hernán González Parias**, Zidane Zeraoui***

* Universidad Esumer, Medellín, Colombia

Correo-e: mesabedoya@gmail.com ORCID iD: <https://orcid.org/0000-0001-8495-9988>

**Tecnológico de Antioquia, Medellín, Colombia

Correo-e: carlos.gonzalez@tdea.edu.co ORCID iD: <https://orcid.org/0000-0001-6129-8662>

*** Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey, México

Correo-e: zeraoui@tec.mx ORCID iD: <https://orcid.org/0000-0001-8121-8455>

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Abstract: This research article offers a bibliometric analysis of paradiplomacy. The analysis addresses three dimensions. The first characterizes the context of scientific publications on the subject: number of publications, types of documents published, language, and countries of origin of the documents. The second is the impact of these publications: representative authors, concentration of citations by authors, and relevant journals. The third, regarding content, identifies recurrent and emerging issues on paradiplomacy research. A quantitative methodology is used with statistical mechanisms and collection of information in Scopus from 1984 to 2021. It is concluded, among other issues, that, although paradiplomacy is at a time of development and research consolidation, efforts should be made to consolidate specialized media to disseminate articles and to establish networks among paradiplomacy researchers.

Keywords: paradiplomacy, bibliometric analysis, subnational actors, international relations.

Evolución y tendencias en investigación sobre paradiplomacia. Un análisis bibliométrico.

Resumen: Este artículo de investigación ofrece un análisis bibliométrico de la paradiplomacia. El análisis aborda tres dimensiones. La primera caracteriza el contexto de las publicaciones científicas sobre el tema: número de publicaciones, tipos de documentos publicados, idioma y países de origen de los documentos. La segunda es el impacto de estas publicaciones: autores representativos, concentración de citas por autores y revistas relevantes. La tercera, de contenido, identifica temas recurrentes y emergentes en la investigación de la paradiplomacia. Utiliza una metodología cuantitativa con mecanismos estadísticos y de recolección de información en Scopus desde 1984 hasta 2021. Se concluye, entre otras cuestiones, que, si bien la paradiplomacia se encuentra en un momento de desarrollo y consolidación investigativa, se debe trabajar en la consolidación de medios especializados para difundir artículos y establecer redes entre investigadores de la paradiplomacia.

Palabras Clave: paradiplomacia, análisis bibliométrico, actores subnacionales, relaciones Internacionales.

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1. INTRODUCTION

Bibliometrics is considered a methodological structure aligned towards the analysis of information, but it focuses mainly on scientific publications. Some needs and interests for carrying out a bibliometric analysis include the desire of many scientific fields to obtain an overview of the literature (Ellegaard & Wallin, 2015); to know the visibility and influence that the publications have on the scientific community, and to identify researchers and specialized groups on this particular subject. These characteristics have allowed a significant proliferation of bibliometric studies in all areas of knowledge—formal and natural sciences and social and human sciences.

The concept of paradiplomacy emerges in the 1980s linked to the discipline of International Relations (IR) as a result of political transformations and the progress of the globalizing process. It intends to explain some international dynamics and actions of subnational entities. In the following decades, this type of actions and relationships became more intense, common, and complex, consolidating it as a field of study of IR.

The main objective of the article is to specify, through a bibliometric analysis, the investigative evolution that the concept of paradiplomacy has undergone, since its appearance in the 1980s, through the identification of aspects, such as: behavior of publications annual reports, origin of the articles, authors with the respective level of citation and referencing, establishment of co-authorship networks, journals with the highest frequency of publication of articles on paradiplomacy and the identification of the most recurrent keywords used in the articles.

The relevance and originality of the article rests on the fact that it became the first bibliometric work, with the characteristics described, which presents the investigative evolution of a concept that increasingly obtains both practical and investigative relevance and is positioned as a field of study within of the discipline of International Relations. The article is presented as a contribution to the state of the art on paradiplomacy and the like, which provides, for future research, the identification of research trends on the subject.

This article is divided in four parts. The first provides the conceptual foundations concerning paradiplomacy. The second part details the methodological structure designed to carry out bibliometric analysis: variables analyzed, search formula and sources of information. The third part presents the analysis and discussion of the data collected. Finally, the findings are in the fourth section

2. THE CONCEPT OF PARADIPLMACY

The studies that originated the concept of paradiplomacy date back to the 1980s. In 1984, Duchacek introduced this term and, from that moment on, the theoretical and conceptual discussion of this phenomenon begins. Paradiplomacy can be considered as "the international activity from subnational actors that does not compete with state diplomacy but is rather considered a tool of empowerment and strengthening for the solution of domestic issues and the exploitation of opportunities abroad" (Mesa Bedoya, 2020a).

The paradiplomacy concept has experienced great progress in its activities, study, and analysis. Gradually, the academic community has accepted the studies in this field. It has become one of the topics in vogue in the discipline of International Relations which makes it a very wide object of study that can be analyzed from different fields, perspectives, and methods. Table I shows the evolution of the concept of paradiplomacy and other concepts associated with it.

The foregoing explains what Zeraoui (2016) stated. He assumes the term paradiplomacy as an "umbrella" concept, which generally encompasses everything concerning the foreign policy of intermediate governments, provinces or municipalities, in their multiple expressions and under their different enhancers and constraints.

Concerning the theoretical aspects of paradiplomacy, complex interdependence provides a general basis for it. However, as Mesa (2020) mentions, it should be emphasized that there is no single theoretical approach to the study of this phenomenon. Therefore, there is theoretical flexibility for its approach, which brings together the aforementioned complex interdependence, the analysis of the state, transnational regimes, regional integration, and globalization.

3. METHODOLOGICAL DESIGN

Most bibliometric studies are based on studies of content, impact, or context of the particular topic to be analyzed. Therefore, this article proposes an analysis using variables and indicators that combine these three types of analysis.

The context analysis includes variables such as the number of publications, the period for the research consolidation of the topic, types of documents published, countries with the greatest number of publications, number of documents by authors, and languages of publication. The impact analysis is based on indicators such as the number of citations per document, the category of journals where the documents are published and

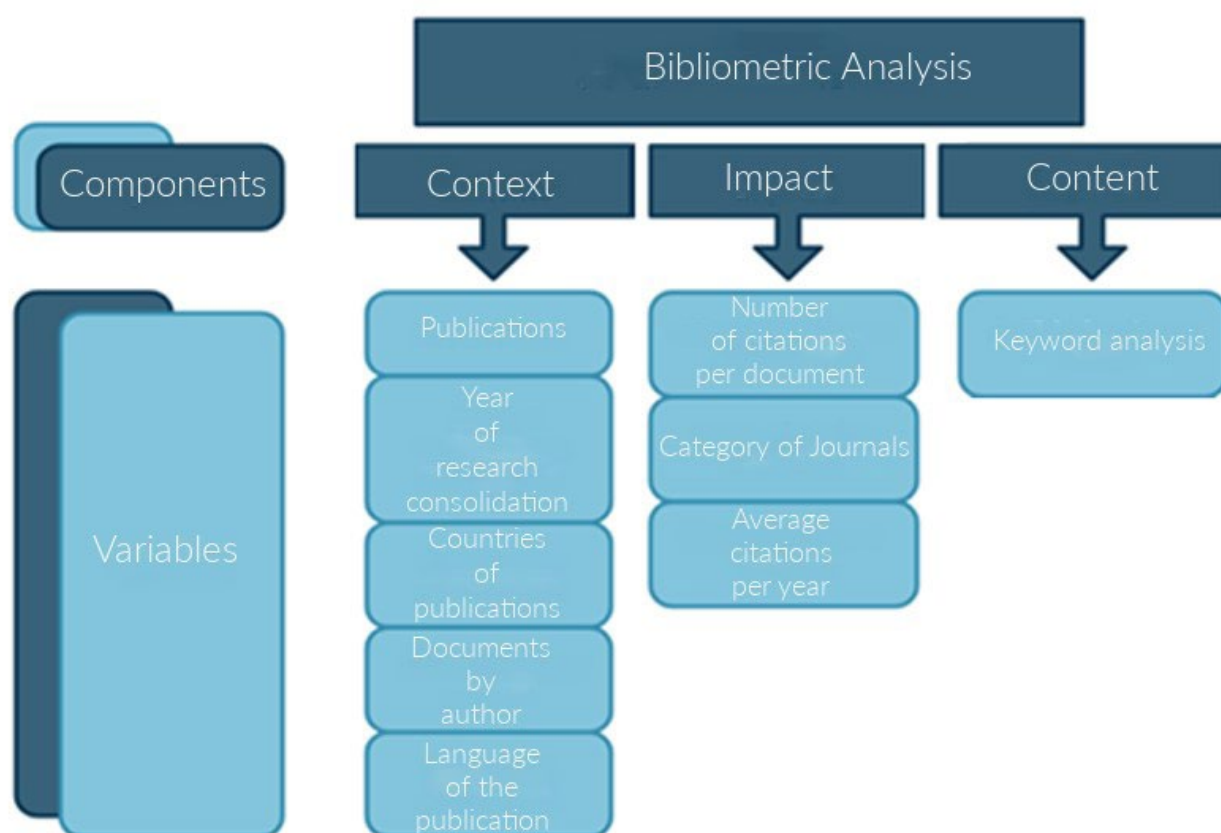
Table I. Evolution of the paradiplomacy concept

Author	Year	Introduced Concepts	Definition
Duchacek	1984	Paradiplomacy	Only states the concept but does not define it.
		Cross-Border regionalism	Informal partnership processes between provinces or Federated States that share borders.
		Global micro diplomacy	Direct contacts between domestic "constituent governments" with foreigners.
	1986a	Cross-Border regional micro diplomacy	Formal and informal contacts conditioned by geographical proximity and by the similarity of common problems and their possible solutions.
		Transregional micro diplomacy	Connections and negotiations between non-central governments that are not contiguous, but their states are.
		Global paradiplomacy	Political contacts of non-central governments with distant nations, not only for trade or business but also for establishing social and cultural ties.
	1986b	Global protodiplomacy	The external actions of non-central governments of separatist connotations in search of their sovereignty.
		Cross-Border regionalism	Categorizes them as "paradiplomacy activities" and describes them as correlated concepts but does not define them again.
		Global micro diplomacy	
	1988	Cross-Border regionalism Regional paradiplomacy	Regional interactions usually between provinces and states, with subnational actors that share borders.
		Transregional paradiplomacy	More formal contacts between subnational actors that are not geographically neighbors, but their countries are.
		Global paradiplomacy	Interactions of subnational actors with their peers from non-contiguous countries.
		Protodiplomacy	It applies exclusively to those subnational actors whose international management seeks to generate another sovereign state; a kind of action in the international sphere that seeks to generate a process of secession.
	1990	Cross-Border regional paradiplomacy	Contacts of non-central governments with their peers along borders.
		Transregional paradiplomacy	Links or contacts of subnational actors with their peers, whose jurisdictions are not continuous, but their countries are.
		Global paradiplomacy	Contacts of subnational actors with central governments abroad.
Soldatos	1990	Paradiplomacy	The direct and, in several cases, autonomous participation of Federated units in foreign affairs.
		Global paradiplomacy	The international activity of Federated units when their interest is related to the entire international system.
		Regional paradiplomacy	The involvement of Federated units in international affairs of regional relevance.
		Macro-regional paradiplomacy	The involvement of subnational actors in matters concerning non-contiguous communities.
		Micro-regional paradiplomacy	The international activity of subnational actors is related to geographically neighboring communities
	1993	Paradiplomacy	The direct activity carried out by subnational actors (federated units, regions, urban communities, cities) supporting, complementing, correcting, duplicating or challenging the nation-state diplomacy; the "Para" prefix indicates the use of diplomacy outside the traditional nation-state framework.

Author	Year	Introduced Concepts	Definition
Keating	1999	Paradiplomacy	It is a "part of the expansion of international affairs, in which states are no longer the only actors"
Cornago	2000	Paradiplomacy	The participation of subnational governments in international relations, through the establishment of formal or informal contacts, permanent or ad hoc, with foreign public or private entities, with the aim of promoting socio-economic or political issues, as well as any other foreign dimension of their constitutional competencies.
Kincaid	2003	Constituent diplomacy	Participation of local and regional governments in foreign policy and international affairs.
Zeraoui	2011	Parallel diplomacy	International actions of local actors in parallel to state diplomacy. It supports top-level diplomacy and complements its actions at the local level.
	2016	Convergent diplomacy	International action of the region complementary to national policy.
Mesa	2020	Endodiplomacy	It is a type of paradiplomacy that originates within the states, by their local actors and conducted by them, in order to generate development processes endogenous to their territories.

Source: (Mesa Bedoya, 2020a, Mesa Bedoya 2020; Zeraoui, 2011; 2016)

Figure 1. Components of Bibliometric Analysis



the average number of citations per year. Content analysis is intended to determine research trends and emerging issues through concurrency analysis of keywords. The inclusion of content analysis of scientific texts, such as the identification and classification of keywords, offers the possibility of transcending the analysis towards the identification of research trends and emerging fields in this topic.

The search of the documents was carried out in Scopus. The choice of Scopus is based on the following reasons: it allows searches with extensive temporal coverage. It incorporates advanced search options that allow you to identify aspects such as title, abstract, keywords and content. It is considered one of the most important bibliographic databases, with more than 40,000 peer-reviewed scientific journals. It has a periodic updating system, which facilitates access to the most recent advances in knowledge. Finally, it offers the possibility of downloading the information in CSV Excel format, facilitating the processing of information in tools such as VOSviewer.

The procedure designed for the search and identification of documents included title, keywords, summaries and conferences containing the word "paradiplomacy".

**TITLE (paradiplomac*) OR KEY
(paradiplomac*)**

**OR ABS (paradiplomac*) OR CONF
(paradiplomac*)**

The term paradiplomac* is used to include the term paradiplomacy or paradiplomacia in the results. No temporality and geographic location filters were applied.

The treatment of the data obtained from Scopus was carried out as follows: these were downloaded in CSV Excel® format, later, the data were loaded into the VOSviewer version 1.6.16® software. The use of this software allowed the graphical representation in networks of normalized concurrence of keywords by means of a similarity index of strength of association, co-authorship of countries and cited authors, previously normalized. The first of these analyzes makes it possible to identify the thematic trends of an area, either over time or according to the degree of centrality and density (Restrepo & Urbizagástegui, 2017); a group of aggregated keywords could indicate underlying themes, or it can determine how the main themes of a field of study have evolved over time.

4. DATA ANALYSIS AND DISCUSSION

The search was conducted on April 15, 2021 and yielded 186 records between 1984 and the date of search. It included research articles, book chapters, books, and other types of publications. These results are sorted as follows: 136 articles, 25 book chapters, 18 reviews, 1 book, 1 conference paper, 1 erratum, and one note.

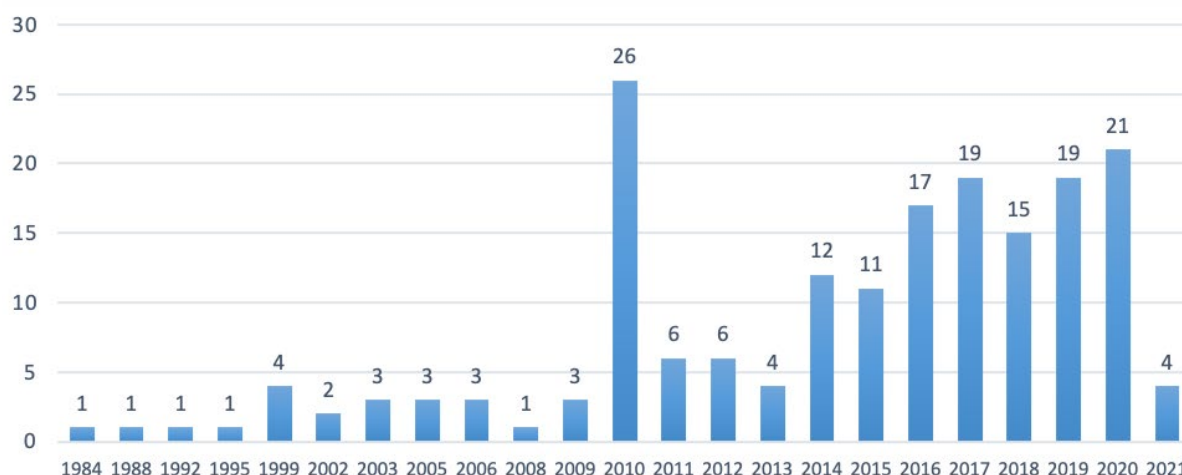
English is the main language of the publications with 153 documents, followed by Spanish (16), French (6), Portuguese (6), Slovenian (4), Turkish (1), and Russian (1).

4.1. General context of scientific publications on paradiplomacy in Scopus

4.1.1. Evolution of publications on paradiplomacy

Scopus's first paper on paradiplomacy was published by Ivo Duchacek (1984) entitled "The

Figure 2. Documents issued per year



Source: Scopus data

international dimension of subnational self-government", which is considered a paradiplomacy foundational document. In the following years, publications on paradiplomacy were intermittent. Four years later, Nancy Paige Smith (1988) published the article "Paradiplomacy between the U.S. and Canadian Provinces: The Case of Acid Rain Memoranda of Understanding". This article illustrates the application of the concept in a real case study and analyzes the memorandums of understanding between The United States and Canada.

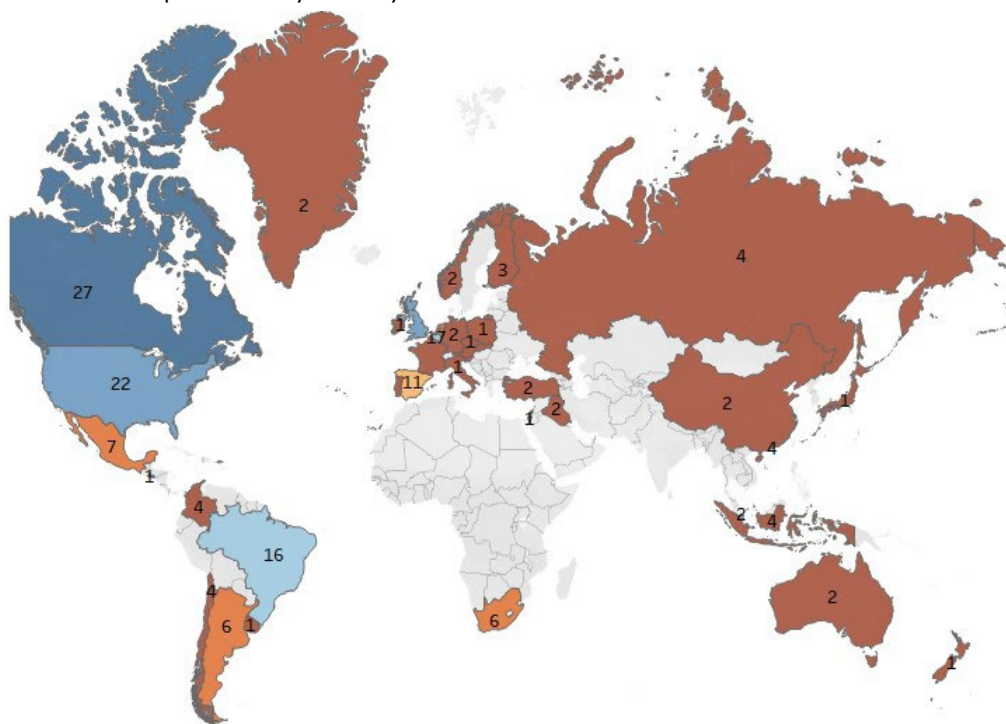
Figure 2 shows two stages in relation to studies on paradiplomacy, an initial stage (1984-2009) and a discipline consolidation stage (2010-2021). In the 1980s and early 1990s, the publication of scientific articles was intermittent; however, this did not suppose a period of inactivity in the study of paradiplomacy. In this decade, several pieces of research were published on the subject. For instance, Ivo Duchacek (1986a; 1986b; 1988; 1990) published in journals and books not indexed in Scopus. He wrote several articles that are considered pillars in the development of the topic, namely: "Territorial Dimension of Politics: Within, Among and Across Nations", "International Competence of Subnational Governments: Borderlines and Beyond". Also, he published several book chapters such as "Multicommunal and Bicomunal Polities

and Their International Relations" in the book "Perforated Sovereignities and International Relations: Trans-Sovereign Contacts of Subnational Governments" and "Perforated Sovereignities: Towards a Typology of New Actors in International Relations" in the book "Federalism and International Relations. The Role of Subnational Units".

Payanotis Soldatos (1990; 1993) is another representative author considered a precursor in the analysis of paradiplomacy. His contributions were significant in the initial formulation of this concept (Mesa Bedoya, 2020a). Despite this, he is also missing from the search in Scopus because his publications on this subject were mainly developed through chapters of research books that are not included in the aforementioned database. Such is the case of his contributions in "An Explanatory Framework for the Study of Federated States as Foreign-policy Actors" in the book "Federalism and International Relations. The role of Subnational Units", i.e., he published in one of the same books as Duchacek. This also applies to the chapter "Cascading Subnational Paradiplomacy in an Interdependent and Transnational World" published in the book "States and Provinces in the International Economy".

From the late 1990s and the early years of the 21st century, paradiplomacy began to gain re-

Figure 3. Documents published by country



search dynamism. In the 2010s and 2020s, an average of 14 papers were published per year. The 2020s represent about 87% of the production on paradiplomacy since 1984.

4.1.2. Geographical origin of publications on paradiplomacy

Most publications on paradiplomacy are concentrated in the Federal States or those with a higher level of autonomy in their subnational entities. This is the case of Canada, the United States, the United Kingdom, Brazil, Mexico, Argentina, and Spain. This supports Mesa's (2020a) argument, as there is a greater academic development of paradiplomacy in the Federal States, making it possible to state that the federal political system provides a better space for the development of the paradiplomacy of subnational actors. Figure 3 shows four nodes or publication hubs: United States, United Kingdom, Canada, and Belgium. They appear as centers of gravity of scientific production on paradiplomacy, and close collaborative relationships are observed among them due to the strength of the links.

Collaborative networks continue to emerge between researchers of different nationalities specialized in paradiplomacy. Relations between the five main nodes (Canada, Belgium, Brazil, the United Kingdom, and the United States) are sporadic, except in the case of Brazil-United Kingdom and Belgium-Canada, where the strength of the link is

Table II. Authors with the highest number of publications on paradiplomacy

Authors	Number of publications	% of total
Paquin, S	10	5.5
Cornago, N	4	2.2
Duran, M	4	2.2
Schiavon, J	4	2.2
Sergunin, A	4	2.2
Albina, E	3	1.6
Chaloux	3	1.6
Criekemans, D	3	1.6
Deforche, J	3	1.6
Huijgh, E	3	1.6
Joenniemi, P	3	1.6
Nganje, F	3	1.6
Tatham, M	3	1.6

Source: Scopus data

Figure 4. Network of co-authors between countries



greater than in the others. In the latter case, the contributions of Stéphane Paquin stand out.

4.2 Authors, citations, and impact

In the Scopus database, 160 authors have written on paradiplomacy. Table II shows the 13 authors who have published the most on the topic, with at least three published articles.

Within this ranking, it is possible to categorize two types of studies among those authors with more than three publications: those who focused on analyzing case studies and those who contributed to the conceptual controversy of paradiplomacy.

The first group includes the contributions of Stéphane Paquin, whose analysis have focused on studying the paradiplomacy of the Canadian province of Quebec and its links with Europe; the contributions of Jorge Schiavon, recognized for analyzing paradiplomacy in the Mexican context and for developing typologies for its measurement; the research of Alexander Sergunin, who has worked on the analysis of the role of Russian subnational actors in the Arctic and Baltic Seas; and the contributions of Manuel Duran, which focus on paradiplomacy in France and in the Mediterranean region.

In the second group, Noé Cornago's texts stand out. His contributions focus on the "normalization" of sub-state diplomacy and the role of paradiplomacy in matters of conflict and cooperation in the context of the redefinition of international security.

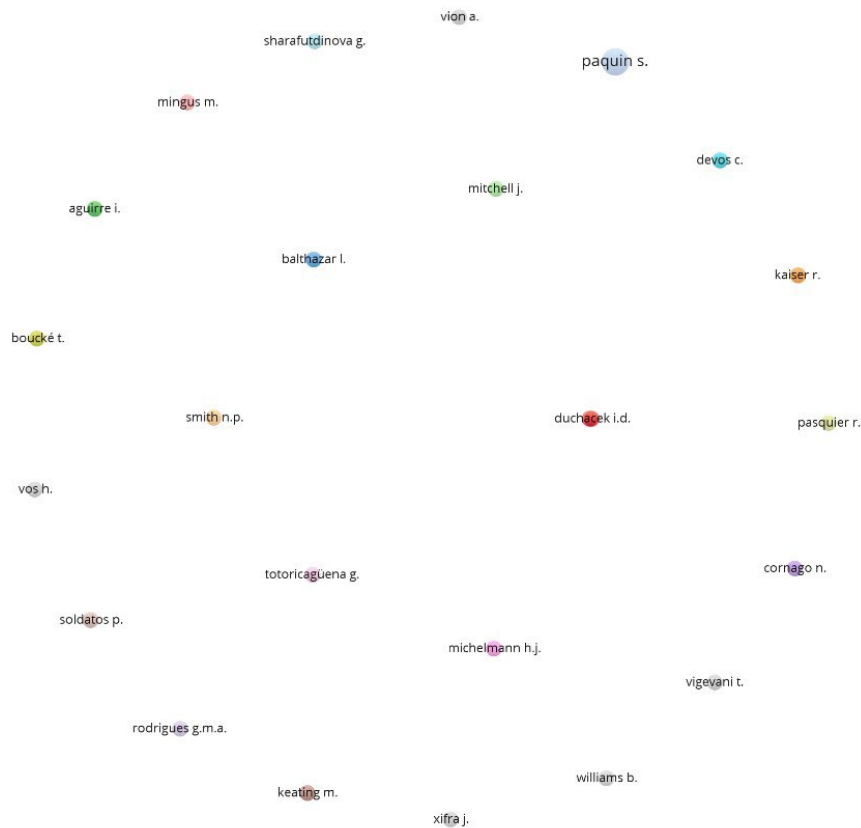
From the 186 documents analyzed, 132 have been cited at least once and 31 of them exceed 10 citations, table III.

The objects of analysis of International Relations and Social Sciences in general begin as factual facts

Table III. Authors' citations 1986-2010 and 2010-2021

Authors' citations 1986-2010				Authors' citations 2010-2021			
Author	Doc.	Citations	Link Strength	Author	Doc.	Citations	Link Strength
Paquin, S	3	39	0	Duran, M	4	15	13
Duchacek, I	1	58	1	Cornago, N	3	51	10
Eatmon, T	1	8	1	Jackson, T	2	10	7
Aguirre, I	1	25	0	Paquin, S	7	32	7
Balthazar, L	1	15	0	Tatham, M	3	74	7
Boucké, T	1	2	0	Criekemans, D	3	39	6
Cornago, N	1	19	0	Lui, T	2	8	6
Devos, C	1	2	0	Song, Y	2	8	6
Kaiser, R	1	10	0	Nganje, F	3	22	5
Keating, M	1	83	0	Setzer, J	2	17	5
Michelmann, H	1	8	0	Bursens, P	2	15	4
Mingus, M	1	13	0	Cantir, C	2	9	4
Mitchell, J	1	17	0	Chaloux, A	3	3	4
Pasquier	1	10	0	Deforche, J	2	15	4
Rodrigues, G	1	4	0	Dittmer, J	2	3	4
Sharafutdinova, G	1	25	0	Ackrén, M	2	12	2
Smith, N	1	6	0	Albina, E	3	7	2
Soldatos	1	8	0	Huijgh, E	3	15	1
Totoricaguena, G	1	7	0	Morin, D	3	4	1
Vigevani, T	1	8	0	Poliquin, M	2	4	1
Vion, A	1	5	0	Schiavon, J	4	9	1
Vos, H	1	2	0	Van den Brande	3	4	1
Williams, B	1	6	0	Zamorano, M	2	10	1
Xifra, J	1	12	0	Bajc, G	2	0	0
				Miranda, S	2	3	0
				Santana, C	2	3	0
				Sergunin, A	4	11	0

Source: Scopus data.

Figure 5. Authors cited (1986-2009)

and phenomena, bursting into social life as new realities, which require to be identified, known, and explained by the sciences. In this sense (Ramírez, 2009) states “scientific research fulfils a process of reasoning-questioning that begins with the abstraction of a new fact, little known, insufficiently explained, or of necessary confirmation, taking and ordering its characteristics to consider them as observations on such fact”.

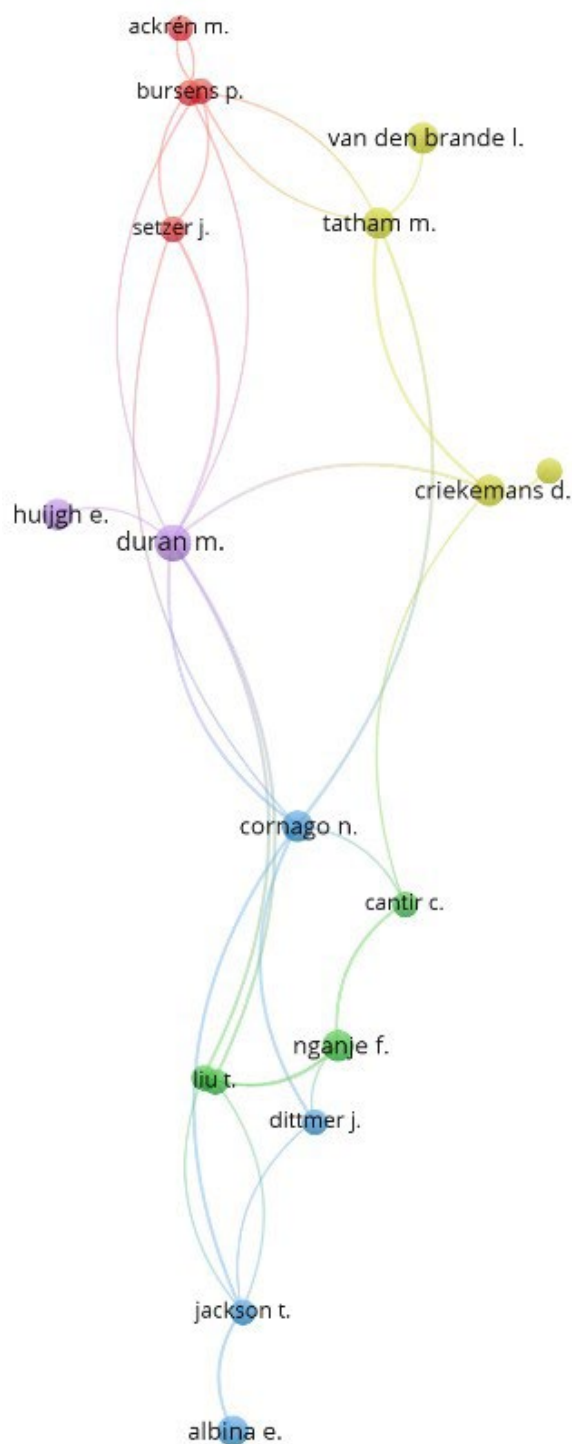
In this regard and based on figure 5, it can be noted that the period since the first publication in Scopus (1984) to the exponential growth of publications (2009) could be considered as the development phase in research on paradiplomacy. At that time, science begins to identify and observe new dynamics and ways of relating subnational entities to the international environment. This early stage was characterized by isolated efforts of researchers from different latitudes. During the period, two articles were published by more than one author, such as *The Conditio Sine Qua Non of the Added Value Of Regions in the EU: Upper-Level Representation as the Fundamental Precondition* by Vos and others (2002)—all three of them affiliated to the University of Ghent in Belgium—and *Subnational Units’*

Paradiplomacy in the Context of European Integration by Soldatos and Hans Michelmann (1992).

However, the second stage (2010-2021), which could be referred to as the discipline consolidation stage (Figure 6) does not only correspond to a process of acceleration of scientific production, but also to an increase in the impact of the different authors. This is reflected in a dynamic of citations of these authors in the different paradiplomacy articles. Co-authorship of publications also indicate a substantial growth. In the period 2010-2021, 60 of the 163 documents published were co-authored, equivalent to 36.8% of the total. This information and the one presented in figure five show that a scientific community around paradiplomacy emerged. This community established research networks and a greater circulation and consumption of research.

The total analyzed articles were published in 168 journals. Out of these, 82 have published only one article on paradiplomacy. Four scientific journals have more than 20% of the publications. These journals account for 32.9% of the total number of citations.

Figure 6. Authors cited (2010-2021)



4.3 TOPICS AND CURRENT RESEARCH ON PARADIPLOMACY

The different topics addressed in the studies on paradiplomacy evolved. In the initial phase (1984

- 2009), the concurrence of keywords shows a concentration on topics (Figure 7) such as diplomatic relations (this was the main issue), studies on federalism, the role of the state, and the analysis of paradiplomacy cases in the Federal States, like the Russian Federation and Canada.

Figure 7 also shows that the diplomatic relations keyword was the gravity center and a main position in relation to the other keywords. There are three clusters of keywords, with extreme distances and weak links between them. The diplomatic relations keyword was crucial in establishing and mediating between concurrences among the different clusters.

In the stage of discipline consolidation (2010-2021), there are multiple keywords, as shown in figure 8. The center of gravity changed from the diplomatic relations concept to the paradiplomacy concept. This shift is the result of the consolidation of paradiplomacy as a concept, which is now used to study and describe the growing phenomenon of international management of local governments. In this second stage, there is a greater strength

Figure 7. Keywords Concurrency (1984-2009)

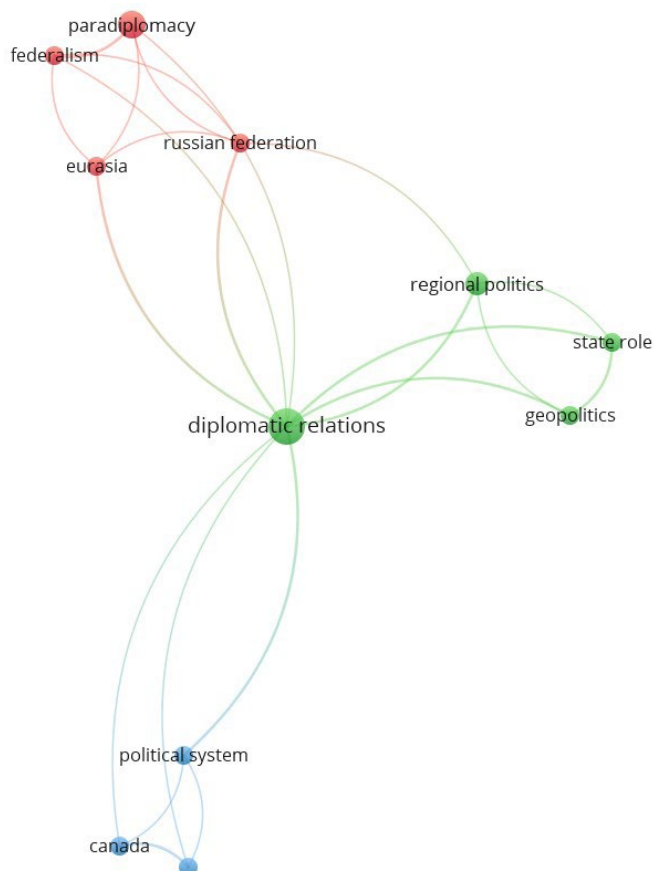


Table IV. Journals' Impact

#	Journal	Articles	% of articles	Citations	% of citations	Country
1	<i>Hague Journal of Diplomacy</i>	15	8.9	131	14.1	The Netherlands
2	<i>Regional and Federal Studies</i>	9	5.4	152	16.3	The United Kingdom
3	<i>American Review of Canadian Studies</i>	5	3.0	7	0.8	The United Kingdom
4	<i>International Negotiation</i>	5	3.0	16	1.7	The Netherlands
5	<i>Pacific Review</i>	4	2.4	9	1.0	The United Kingdom
6	<i>Revista brasileira de política internacional</i>	4	2.4	12	1.3	Brazil
7	<i>Annales Anali za istrske in mediteranske studije series historia et sociologia</i>	3	1.8	9	1.0	Slovenia
8	<i>Civitas</i>	3	1.8	2	0.2	Brazil
9	<i>Análisis Político</i>	2	1.2	0	0.0	Colombia
10	<i>Canadian Foreign Policy Journal</i>	2	1.2	13	1.4	Canada
11	<i>Canadian Journal of Political Science</i>	2	1.2	12	1.3	Canada
12	<i>Estudos Internacionais</i>	2	1.2	0	0.0	Brazil
13	<i>Foreign Policy Analysis</i>	2	1.2	9	1.0	The United States
14	<i>French Politics</i>	2	1.2	22	2.4	France
15	<i>Geography Compass</i>	2	1.2	14	1.5	The United Kingdom
16	<i>International Journal of Innovation Creativity and Change</i>	2	1.2	0	0.0	The United Kingdom
17	<i>Iran and the Caucasus</i>	2	1.2	11	1.2	The Netherlands
18	<i>Journal Of European Integration</i>	2	1.2	10	1.1	The United Kingdom
19	<i>Nationalism And Ethnic Politics</i>	2	1.2	23	2.5	The United Kingdom
20	<i>Quebec Journal of International Law</i>	2	1.2	1	0.1	Canada
21	<i>Regions And Cohesion</i>	2	1.2	0	0.0	The United States
22	<i>South African Journal of International Affairs</i>	2	1.2	13	1.4	The United Kingdom
23	<i>Studia Historica Slovenica</i>	2	1.2	0	0.0	Slovenia
24	<i>Territory Politics Governance</i>	2	1.2	1	0.1	The United States
25	<i>Transnational Environmental Law</i>	2	1.2	21	2.3	The United Kingdom
26	<i>Urban Affairs Review</i>	2	1.2	5	0.5	The United States
27	<i>Veredas Do Direito</i>	2	1.2	2	0.2	Brazil
28	Others	82	48.8	437	46.9	Several countries
	Total	168	100	932	100.0	

Source: Scopus data.

in the links between paradiplomacy and four other nodes: sub-state diplomacy, federalism (case analysis stands out), International Relations, and regionalism. This shows the extent of analysis that can be made based on the study of paradiplomacy and evidences a more consolidated and diverse field of study, directly linked to the International Relations' discipline.

CONCLUSIONS

In the last decade, research on paradiplomacy has had an exponential growth. However, paradiplomacy is still in a development and consolidation stage as a differentiated field of study within the International Relations' discipline. In order to strengthen it as a subject of analysis, it is required to establish research collaboration network, distinct and specialized publishing spaces, and research groups dedicated to the study of paradiplomacy.

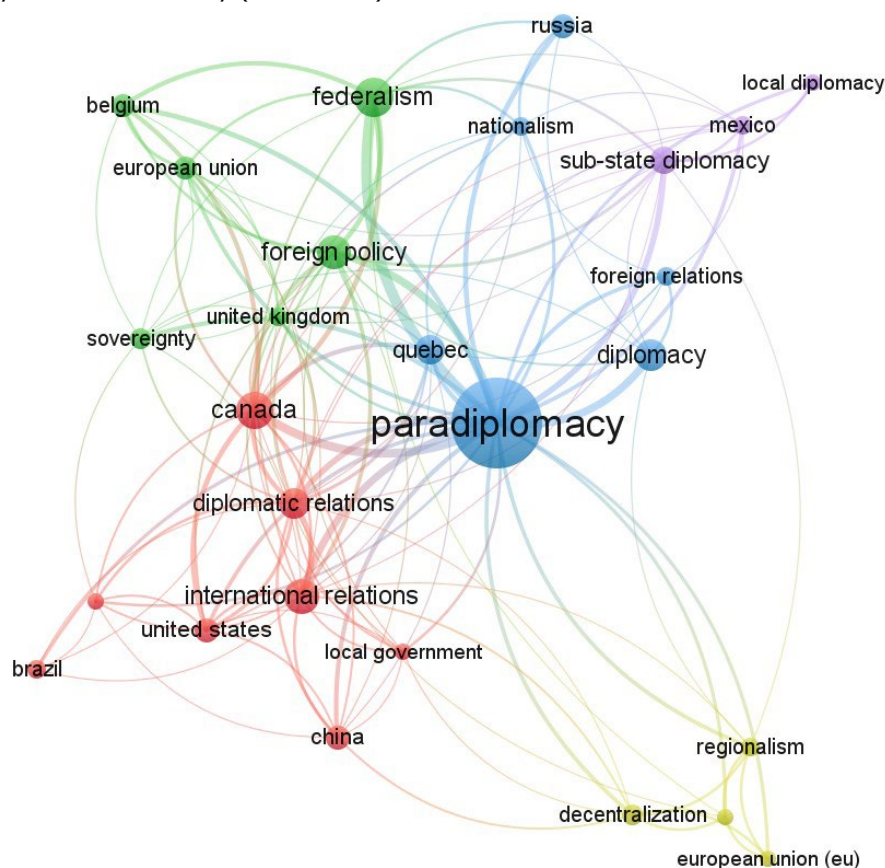
The growth in paradiplomacy publications evidences the amount of activity and dynamism that subnational entities have, under certain limits, to plan, manage, and conduct their relationship with

other actors in the international scene. Therefore, as this phenomenon intensifies and generalizes, an increase in research and scientific interest in paradiplomacy is expected.

Currently, articles in scientific journals are the preferred means for communication and dissemination of knowledge. These have a rigorous editorial process and concise documentation aligned to the scientific method. In addition, the scientific journals host the documents in large bibliographic databases that enable their search and dissemination, allow establishing dialogues and discipline debates, and provide spaces to create communities of experts, among others. Therefore, about 74% of research on paradiplomacy consists of scientific articles, followed by 14% of chapters published in research books.

In the paradiplomacy studies, there are two differentiated stages: the initial stage (1984-2009) in which the concept is created and the first ideas on the subject are developed; and the discipline consolidation stage (2009-2021) which provides a more developed and diverse field of study. However, efforts should be made to consolidate speciali-

Figure 8. Keywords Concurrency (2010-2021)



zed means for the dissemination of articles and to establish networks among researchers dedicated to addressing paradiplomacy.

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