



Journal of European Periodical Studies

an online journal by ESPRit, European Society for Periodical Research

Plotting the Geopolitics of Twentieth-Century Modern and Avant-Garde Illustrated Periodicals

Béatrice Joyeux-Prunel, Nicola Carboni, and Marie Barras

Journal of European Periodical Studies, 9.1 (Summer 2024)

ISSN 2506-6587

Content is licensed under a Creative Commons Attribution 4.0 Licence

The *Journal of European Periodical Studies* is hosted by Ghent University

Website: ojs.ugent.be/jeps

To cite this article: Béatrice Joyeux-Prunel, Nicola Carboni, and Marie Barras, 'Plotting the Geopolitics of Twentieth-Century Modern and Avant-Garde Illustrated Periodicals', *Journal of European Periodical Studies*, 9.1 (Summer 2024), 8–29

Plotting the Geopolitics of Twentieth-Century Modern and Avant-Garde Illustrated Periodicals

BÉATRICE JOYEUX-PRUNEL, NICOLA CARBONI, AND
MARIE BARRAS

Université de Genève

beatrice.joyeux-prunel@unige.ch

ABSTRACT

Illustrated journals are available digitally in unprecedented quantities, and on a global scale. As such, they provide the ideal foundation to examine globalization logics in the history of art and literature through the prism of ‘distant reading and viewing’. When articulated and completed by more traditional close reading of the sources, a computational approach can raise new questions about the international circulation of images in illustrated periodicals. It may help to reinterpret, and even better understand, the variety of flows and imbalances in the international circulation of images, that are often taken too quickly as evidence of centrality or peripherality. This paper presents the perspectives opened by the [Visual Contagions](#) project (SNSF, University of Geneva, CH), which analyses images from thousands of illustrated periodicals published worldwide from the 1890s to the 1990s. Images do not magically circulate, nor do styles ‘diffuse’ and provide evidence of ‘influences’, as it is often assumed. The computational approach is used to analyse avant-garde periodicals, and it allowed us to highlight networks of image exchange, affinities between magazines, countries, and cultural or social milieus. Such methodologies emphasize the social logics that promoted the circulation of images and styles, and unveil the authorial or distributive role of some key publications in the avant-garde; but they also reveal and help understand image diffusions that were previously difficult to explain other than by a *Zeitgeist*, by the notion of centres and peripheries, or by a formalist approach that consolidated the non-questioned domination of European canons.

KEYWORDS

illustrated periodicals, images, globalization, computer vision, digital humanities, distant viewing

Introduction

Travelling from Geneva to Budapest via Zurich by train in 2022 for the tenth ESPRit conference was not only an environmentally conscious decision but also an opportunity to grasp, experientially, the transnational nature of the activities undertaken by the journal editors we have been studying. The physical experience of waiting for train connections and enduring fatigue and insomnia during the journey helped us to understand the concrete challenges involved in transnational activities during the early twentieth century. Unlike modern air travel, European train journeys during this period required extensive preparation: studying transportation maps, determining points of departure and arrival, and choosing the best of the possible routes. The analysis of maps used by the Orient Express railway, which included the Zurich-Budapest route, also provides a unique perspective on the international circulation of texts, images, ideas, authors, artists, and editors at the time. The Orient Express played a crucial role in this process, connecting multiple centres and peripheries in a multifocal circuit. Maps of the period reveal networks of connections rather than centralized hierarchies, multi-oriented and multi-directional circulations instead of a one-way directionality. They provide insights into the cultural history of periodicals and inspire new ways of thinking about transnational activities.

Yet despite calls for decolonization and horizontalization in the study of art and literature, the dichotomy of centre and periphery continues to shape our understanding of their history. Some still assert the dominance of certain cities and their artistic and literary schools during specific periods, while others celebrate the progress made by places previously perceived as peripheral — from provincialism to the ‘Greenwich meridian of modernity’, as Pascale Casanova has described.¹ The continued prevalence of this dichotomy can be explained by two factors: its narratological efficiency and common scientific methods. The centre/periphery dichotomy is narratologically efficient, as the idea of a centre is magnetic, providing an appealing or repelling location for the stories that historians need to tell. Stories often begin with a difficult start in the periphery, whether geographical, social, or aesthetic, and end either triumphantly in the centre or unfairly back at the original starting point. Recent research has highlighted the peripheralization of artists, writers, and movements, confirming the predominance of the centre/periphery narrative structure in art and literature. The need to tell stories is not to be blamed for this; it is an innate part of the construction of reality.² It is not, therefore, surprising that the narrative structure taken by studies of art, history, and literature is often akin to the plot of a novel, in which the conquest of a centre serves as the central theme, whether it ends in success or failure. This is illustrated by Eugène Rastignac’s exclamation at the end of Balzac’s novel *Le Père Goriot* (1835): ‘A nous deux maintenant!’ [It’s just you and me now!] The struggle to conquer a centre is a narrative central to the experience of many artists, writers, and movements, and for this reason the model of centre/periphery may be assumed to be axiomatic in such narratives.

The second factor that amplifies the centre/periphery model is methodological. Case studies and monographs fail to move beyond the hierarchical paradigm of their subject matter. In contrast, a different perspective on the geopolitics of illustrated periodicals can be attained by employing quantitative methodologies and analysing global sources, prior to further examination using more conventional methods. Through

1 On this subject, for the specific case of art history, see Béatrice Joyeux-Prunel, ‘Provincializing New York’, *Artl@s Bulletin*, 10.1 (2021), article 12 [accessed 24 October 2022]. Pascale Casanova, *The World Republic of Letters* (Cambridge, MA: Harvard University Press, 2004).

2 Jerome Bruner, ‘The Narrative Construction of Reality’, *Critical Inquiry*, 18.1 (1991), 1–21.

such an approach, we can plot the geographical distribution of periodicals over time, visualizing the circulation of texts, authors, artists, and works of art. Quantitative methodologies and visualizations help us to unravel the multi-layered realities and the intricate narratives at stake in the past geopolitics of culture.

This article will illustrate methodologies that better overcome the centre-periphery frame, by applying cross-scalar and comparative approaches to the study of the world history of periodicals in the first half of the twentieth century. Specifically, it will examine the international circulation of avant-garde authors and texts, the global circulation of images, and the question of visual centres and peripheries in the international twentieth-century avant-garde. The article starts with two sections delving into the historical backdrop of avant-garde magazines, to introduce readers to the diverse range of periodicals that were integral to the avant-garde movement, highlighting the movement's decentralized nature and the complexities involved in studying its extensive network of connections. The following two sections outline the computational techniques, datasets, and tools developed to analyse the dissemination of avant-garde imagery and publications. Finally, we analyse the circulation of and visual exchange between avant-garde journals, to challenge the notion of an absolute Parisian centrality, and illustrate the strategic dissemination of avant-garde images and their integration into the geopolitical dynamics of the time.

Avant-Garde Visualizations of the Global Field of Journals

Periodicals of the past frequently provide insights into the evolution of a particular social sphere, particularly within the realms of art and literature. Journals were distributed, perused, analysed, duplicated, dissected, copied, or challenged. In the fields of modern art and the avant-garde, which achieved global status during the 1890s with a further acceleration in the 1910s, periodicals regularly listed compilations of their 'sister' publications in the final pages of each issue of their magazine, which evidently were scrutinized by their readers.³ Of particular interest in the avant-garde magazines of the interwar period was the presentation of the international field of avant-garde periodicals in a visual manner by some editors (Fig. 1). The Hungarian journal *Ma*, for instance, published tables on its last page where the sizes and positions of other journals' titles were altered each time, in reference to the layout grids of neoplasticism. On the back cover of the journal's eighth issue, in 1922, on the left of Fig. 1, the German journal *Der Sturm* and the French-Swiss *L'Esprit nouveau* were situated at the centre of the panorama, alongside *De Stijl* (published in the Netherlands), *Broom* (an international art journal published by Americans in Rome, Berlin, and later New York), and *Zenit* for Zagreb and Belgrade. Two years later (*MA* 6–9, 1, July 1924), the Flemish journal *Het Overzicht* was positioned in the middle, surrounded by *Der Sturm* (Berlin), *La vie des Lettres* (Paris), *Das Kunstblatt* (Potsdam at that time), *L'Œuf dur* (Paris), *L'Esprit nouveau* (Paris), and *Noi* (Rome). Obviously, it is not feasible for readers to reconstitute a visual hierarchy from these representations. This is not only because the magazines of the era were presented in a spatial, rather than sequential, manner, but also because the panorama underwent alteration on each occasion.

The concept of mapping international avant-garde periodicals in a Neoplasticist or Constructivist grid was deemed so relevant that it inspired other magazines. For instance, *Noi*, which had initially presented its partner magazines in a literary form in January 1920, began incorporating a map of peer journals on its back cover in 1923 (*Noi* II–1,

3 Béatrice Joyeux-Prunel, *Les avant-gardes artistiques 1848–1918: Une histoire transnationale* (Paris: Gallimard, 2015). As evidenced in the case of *Der Sturm*, 3.154–55 (March 1913), 298.



Fig. 1 When avant-garde journals represented their international field visually. From left to right: Ma, 8.1 (October 1922); Ma, 9.6 (July 1924); Blok, 6-7 (1924); Noi, second series, 1 (April 1923). Kassák Museum, Budapest.

April 1923).⁴ Similarly, *Blok* in Warsaw featured a map on the inside back cover of *Blok* 6–7 in 1924. Again, there was no consistency in these impromptu infographics of the avant-garde journals. The editors did not perceive their activity as being a centralized field, and were fully aware of other publications within their sphere. They regularly received and perused a variety of journals from different countries, which allowed them to position themselves as reliable sources of the latest trends.⁵ They could evaluate their own capacity to present pioneering illustrations and provide current information on recent artistic events. This is why, by constructing a comprehensive and global corpus of the periodicals they edited, we can observe an unstable and global geography of the circulation of the texts these periodicals contained and the authors who wrote them, in which no specific centres emerged — or at least, not those that one might expect.

Authors and Texts in Transnational Polycentric Circulation: A Computational Confirmation

During the early 2010s, the only digital method available for analysing the trajectories and networks of artists, texts, and images associated with the 1920s avant-garde, and for verifying whether Paris was as central to this movement as traditional art history books had suggested, was textual computation comparison: a method that simply involved lists of periodicals and of articles, their titles, dates, and place of publication.⁶ To begin with, this method could be used to examine where avant-garde activities occurred during the interwar period. Although simplistic, a helpful indicator could be found by answering the question, ‘where and when were avant-garde journals established?’ A comprehensive list of all the journals cited by avant-garde periodical experts, which associated each title with its place and date of publication, facilitated the creation of a basic chronological visualization that revealed that Paris was not the only hub of activity.⁷ The visualizations unveiled significant activity in Berlin, Munich, Prague, and across central Europe and Germany. These chronologies, charts, and graphs generated unforeseen questions, such as the reason behind the decline of Parisian dynamism in the early 1920s. The subsequent examination of a series of maps produced further queries: why was there such dynamism in Germany and Central Europe at a time when Parisian activities were waning? Finally, what caused the sharp drop in the creation of avant-garde magazines after 1926? These heuristic visualizations suggested that the peripheries were rising rather than being relegated to the margins.

Despite the evidence indicating the prevalence of avant-garde activity in Central Europe and Germany, doubts remained regarding the influence of Parisian culture on these regions. It was necessary to determine whether the ‘peripheral’ periodicals were drawing inspiration from Parisian journals, and if they shared common references or influences. Upon closer examination, it became clear that Parisian authors and artists were not the sole inspiration for the so-called peripheral periodicals. While Picasso and Braque were featured in these publications, so were the works of Theo van Doesburg, Kurt Schwitters, Hans Richter, and Enrico Prampolini, among others. Constructivist journals shared a network of authors and artists that spanned the geographic peripheries

4 *Noi*, 4.1 (January 1920), 16.

5 Béatrice Joyeux-Prunel, ‘Internationalization through the Lens: Nineteenth- and Twentieth-Century Art Periodicals and Decentred Circulation’, *Journal of European Periodical Studies*, 4.2 (2019), 48–69.

6 Joyeux-Prunel, *Les Avant-Gardes Artistiques 1848–1918*; Béatrice Joyeux-Prunel, *Les avant-gardes artistiques 1918–1945: Une histoire transnationale* (Paris: Gallimard, 2017).

7 Full list available in Béatrice Joyeux-Prunel, ‘Provincializing Paris: The Center-Periphery Narrative of Modern Art in Light of Quantitative and Transnational Approaches’, *Artl@s Bulletin*, 4.1 (2015), 40–64.

of Europe and were linked to the German-speaking network of *Der Sturm*. By contrast, Parisian periodicals of the early 1920s were more exclusive in terms of their authors, with the exception of *L'Esprit nouveau*. Drawing on Franco Moretti's concept of 'distant reading,' the process of constructing a transnational history of the avant-garde thus had to focus primarily on Constructivist and abstract networks, which were more numerous, dynamic, and interconnected than the smaller surrealist clique.⁸ Even with a return to more traditional sources and approaches, including reading the journals, consulting archives, reading correspondence, examining biographies, and analysing works of art, it remained impossible to deduce a Parisian centrality.⁹

Graphs and maps can be considered heuristic, as they often generate new questions rather than providing straightforward answers. They can significantly impact our approach to sourcing and interpreting archival and visual materials within case studies. Expanding the scope of our study to include a broader range of journals and a longer time period would yield further insights. In the present day, comprehensive tables of contents for journals have been digitized, and their computational access can be now automated. This could serve as an excellent starting point for analysing the circulation of texts, authors, translations, and ideas on broader scales. However, this will not be the focus of this paper. Indeed, when illustrated journals were initially published and circulated, the first focus of their readership was on the visual elements such as images and layouts. As a result, there is a great interest in conducting a global study of the distribution of *visual* content across journals.

Context: Confronting the Circulation of Images in Periodicals

The circulation of images on a global scale has been frequently used to demonstrate the cultural dominance of certain centres over others. According to this line of reasoning, Parisian images published prior to 1945 and American images published after the Second World War are assumed to have had greater influence than those from other places and periods. This perspective suggests that images from particular centres were part of a process of cultural homogenization commonly referred to as 'globalization'. For example, it could be asserted that portraits of actress Sarah Bernhardt were replaced by photographs of Marilyn Monroe after the war, and that Parisian fashion lost its global influence to jeans, sneakers, and the American Way of Life. Furthermore, the international recognition of Jackson Pollock is thought to have outshone that of Pablo Picasso.¹⁰

The veracity of the notion that the global circulation of images adheres to a hierarchical structure of cultural centres and peripheries has not, however, been thoroughly examined. This is the challenge that the [Visual Contagions](#) project aims to address.¹¹ The project seeks to utilize a vast digitized collection of illustrated periodicals from the twentieth century, spanning from the 1890s to the rise of the Internet, to investigate the global dissemination of images during this period. Its interdisciplinary team, comprised of historians, art historians, and specialists in digital humanities, including graph data, data science, and computer vision, has been examining the images and visual patterns that circulated internationally and the factors that facilitated their

8 Franco Moretti, *Distant Reading* (London and New York: Verso, 2013).

9 This is the main thesis of Joyeux-Prunel, *Les avant-gardes artistiques 1918–1945*.

10 A narrative we can find, among others, in Serge Guilbaut, *How New York Stole the Idea of Modern Art: Abstract Expressionism, Freedom, and the Cold War* (Chicago, IL: University of Chicago Press, 1985).

11 Visual Contagions was funded between 2019 and 2022 by Europe in the frame of the Excellence Jean Monnet Centre Imago (École normale supérieure, Paris). It is currently funded by the Swiss National Fund for Research SNFS at the University of Geneva (FNS 192821, 2021–24).

diffusion. The study seeks to determine whether the circulation of images reflected an imbalanced geopolitical culture, characterized by influential cultural centres and imitating peripheries, or whether it was a more complex phenomenon. Additionally, the project seeks to determine why specific images have been more viral and influential than others.

To address such complex questions, the project utilizes a cross-scalar methodology that begins with a distant, quantitative computational approach to periodicals and their illustrations before delving into closer analysis of the sources. The hypotheses generated from the distant and close analyses are then compared with results obtained through traditional methodologies such as archival work, image analysis, social approaches, and aesthetic interpretation.

The Visual Contagions Corpus

In the span of two years, the Visual Contagions team collected an extensive corpus of 3.6 million issues of 16,123 illustrated periodicals published across 1,237 cities in 49 countries between 1880 and 2021.¹² To avoid problems intrinsic to logocentrism, we chose to extract only images from these periodicals, in both colour and black and white. The text around an image, while retrievable, is not stored in our corpus at this stage. A multimodal analysis of images and text on a such a large scale is foreseeable for a future version of the project.

The establishment of this extensive corpus became feasible thanks to the digitization initiatives undertaken by libraries and other archival institutions. These efforts have led to a growing trend of making periodical collections available in open access formats. However, the availability of the sources has been limited by copyright legislations, which restrict the online availability of many periodicals published after 1950. Hence, a significant portion of the project's corpus comprises magazines published before this period, particularly between 1890 and 1930 (Fig. 2). Furthermore, the project's endeavours are also contingent upon the unequal geopolitical landscape of digital archives, wherein certain countries possess greater resources and incentive to digitize their historical records.¹³ For this reason, the corpus mirrors the digitization endeavours undertaken by individual countries, with the available sources showcasing the recent efforts in this domain, particularly within the Global North (Fig. 3). The ten countries with the highest representation based on the number of titles are the United States of America, the United Kingdom, France, Germany, Poland, Argentina, Slovenia, Japan, the People's Republic of China, and Italy. The team is still in the process of expanding the sources to include more Asian and African periodicals. However, a careful assessment of the scientific literature has confirmed that no study on the circulation of images has ever worked on such a large and global corpus.

The team utilizes data science processes and machine vision algorithms to extract each illustration from its corresponding page and classify them using feature extraction

12 Due to the limitation of the medium, the list of journals ingested, and their corresponding cities cannot be added here. However, it is browsable on the [website](#), under the dataset section. The list of countries present in the corpus are: Chile, Netherlands, France, United Kingdom, Switzerland, United States of America, Poland, Germany, Uruguay, Mexico, Brazil, Portugal, Croatia, Slovenia, Italy, Australia, Canada, Austria, Argentina, Japan, Peoples Republic of China, Belgium, Czech Republic, Denmark, Finland, Tunisia, Egypt, Lebanon, Iraq, Israel, Algeria, Turkey, Senegal, Vietnam, Cameroon, Madagascar, Morocco, Slovakia, Sweden, Russia, Romania, Spain, Ukraine, South Africa, Peru, Kazakhstan, Hungary, Republic of Ireland, Serbia, Monaco.

13 We expand on the limitations and biases of the corpus in the second episode of the [digital exhibition](#) for the Jeu de Paume museum's *Espace de création numérique* (Spring 2022): Béatrice Joyeux-Prunel and Nicola Carboni, 'In the project's kitchen – or behind the scenes of Big Data'.

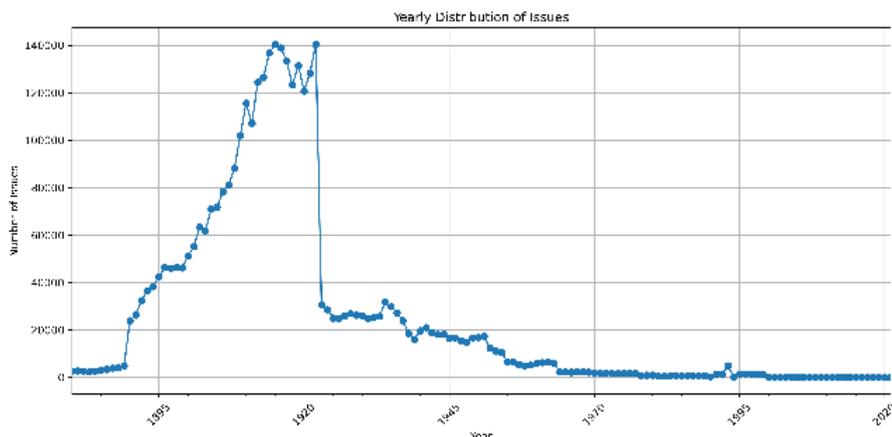


Fig. 2 Visual Contagions: temporal distribution of periodicals in the corpus, 2024

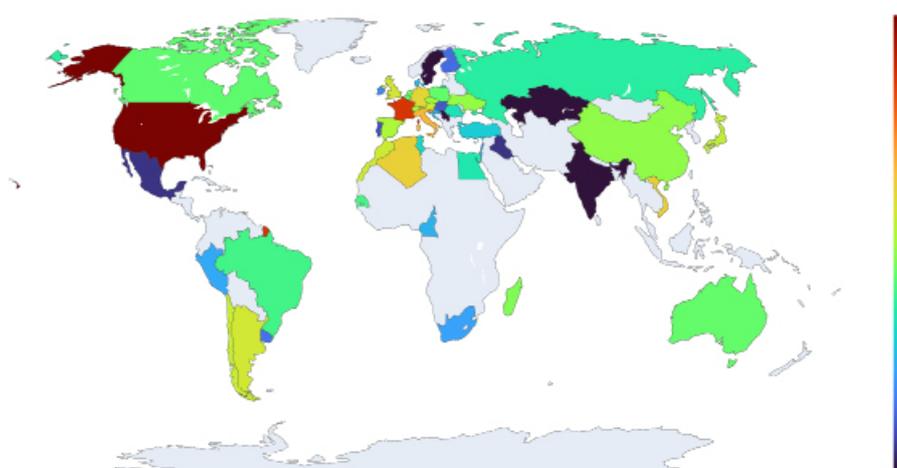


Fig. 3 Visual Contagions: spatial distribution (by country) of periodicals in the corpus, 2024.

techniques.¹⁴ These extracted images undergo further processing through computer vision algorithms. While the application of machine learning techniques for image analysis and classification in the Digital Humanities field is not entirely new, the novelty lies in the scale — millions of images are being dynamically computed — along with the choice of computational methods.¹⁵ The Visual Contagions project utilizes a ViT network trained with DINO, an unsupervised training methodology.¹⁶ This approach is particularly effective for detecting image similarity across various media types, as it adjusts to the contrast and colour changes commonly encountered in digitized printed material (Fig. 4). Initially we had opted for a different algorithm, ResNet18. However,

14 Tom Monnier and Mathieu Aubry, 'docExtractor: An Off-the-Shelf Historical Document Element Extraction', 17th International Conference on Frontiers in Handwriting Recognition (ICFHR) (2020).

15 Important contributions on the topic are Melvin Wevers and Thomas Smits, 'The Visual Digital Turn: Using Neural Networks to Study Historical Images', *Digital Scholarship in the Humanities*, 35.1 (2020); Thomas Smits, *The European Illustrated Press and the Emergence of a Transnational Visual Culture of the News, 1842–1870* (London: Routledge, 2019); Leonardo Impett, 'Painting by Numbers: Computational Methods and the History of Art' (unpublished doctoral thesis, École Polytechnique Fédérale, Lausanne, 2020); Nanne Van Noord, 'A Survey of Computational Methods for Iconic Image Analysis', *Digital Scholarship in the Humanities*, 37.4 (2022).

16 Mathilde Caron et al., 'Emerging Properties in Self-Supervised Vision Transformers', *Proceedings of the IEEE/CVF International Conference on Computer Vision* (2021), 9650–60.

PLOTTING THE GEOPOLITICS OF TWENTIETH-CENTURY MODERN AND
AVANT-GARDE ILLUSTRATED PERIODICALS

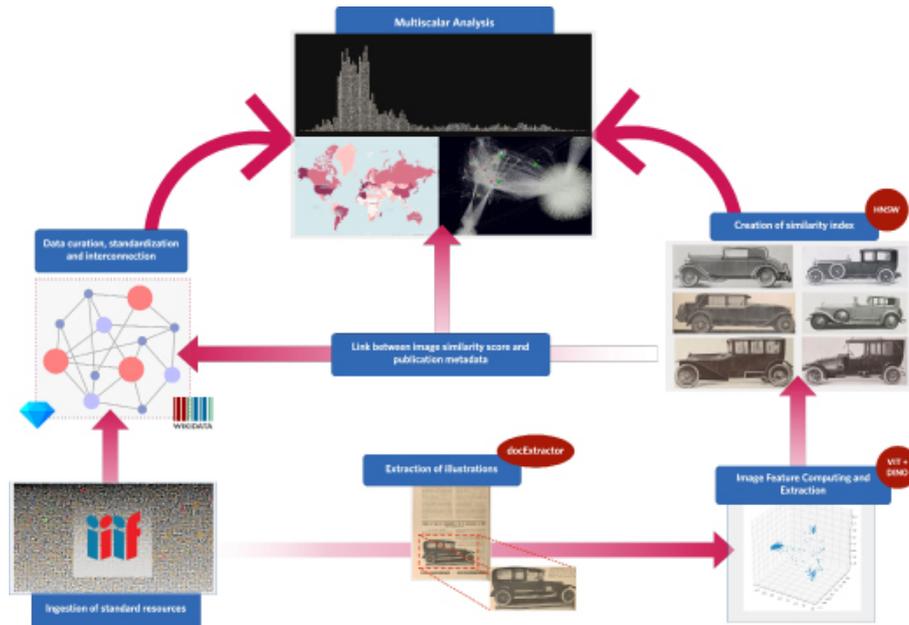


Fig. 4 Visual Contagions: The Project's Pipeline, 2024.

we found that image similarity detection was significantly influenced by the semantics of the depicted objects rather than their visual characteristics. After a qualitative and quantitative investigation, we ultimately chose to adopt VIT+DINO, as this algorithm better retrieves visual features regardless of the depicted content.¹⁷

Through the application of these methods, our team has successfully algorithmically extracted approximately 14.2 million images. These images undergo a process of comparison and are subsequently organized according to their visual similarities. For each image, we retrieve details about the publication location and date, as well as the title of the journal in which it was printed, using the information embedded in their International Image Interoperability Framework (IIIF) manifest. Additionally, IIIF enables the retrieval and calculation of the size of each image in relation to the page (expressed as a percentage), which facilitates further research into the presence and weight of each image type. Although this latter line of inquiry has not been pursued in the current study, we are in the process of developing methods and techniques that will enable the assessment of this aspect across the entire collection.

By cross-referencing the dates and places of publication, the team is able to order groups of similar images chronologically and observe possible spatiotemporal circulations of themes, motifs, or even individual images that would have been reproduced successively in several media. Each specific instance of an image is carefully examined to determine whether it may have been verifiably connected to other illustrations, or whether the algorithm is simply gathering images that are visually similar but have no clear historical relationship. Only interesting clusters are selected, and groups of relevant images are recorded, described, and associated with the types of journals in which the illustrations were printed. After this process has taken place, statistical analysis and case studies can help to formulate new hypotheses on the subject of how images circulated

¹⁷ More details on the algorithm chosen and its selection can be found in Robin Champenois and Béatrice Joyeux-Prunel, 'Visual Contagions: extraction et traitement d'images pour l'étude globale de la circulation d'images illustrées', *Humanistica*, 2023.

globally over the first half of the twentieth century. These hypotheses are later verified using traditional approaches and other sources.

Art Magazines as a Global Visual World

Utilizing the digital platform *VisualContagions/Explore*, scholars can observe individual groups of similar images arranged in chronological order (Fig. 5). Each image is meticulously linked to its place and year of publication, as well as the name and type of the journal in which it was published (such as newspapers, women’s periodicals, automobile magazines, modern art journals, art history journals, and avant-garde periodicals). While the algorithm is primarily designed to recognize duplicate images, it also aggregates images based on their content, for example buildings, sailing boats, or ocean liners.¹⁸ A feature allows users to select a single image and compare it with the entire corpus, prompting the machine to retrieve the most comparable images. In this way, the circulation of a given group of images can be visualized in space and time, and several visual clusters can be compared .

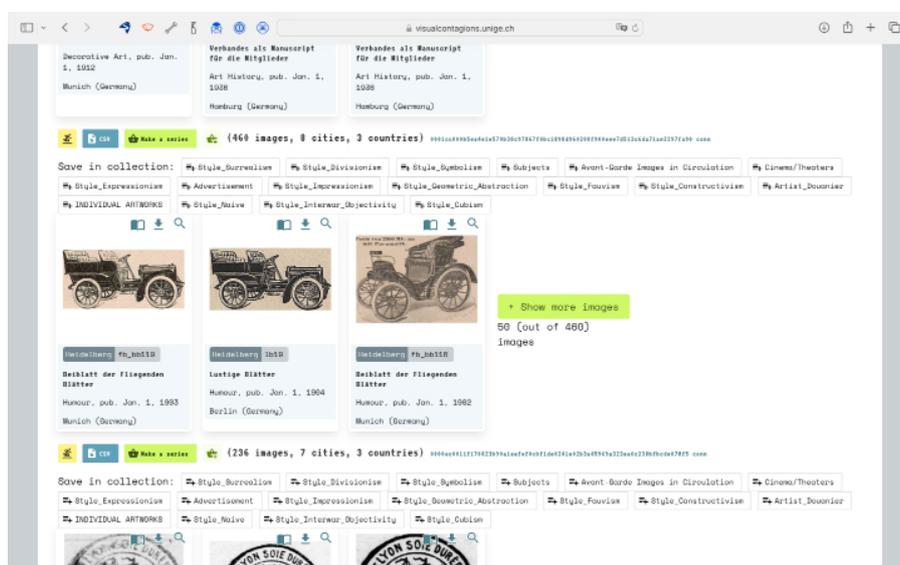


Fig. 5 The Platform *Explore*.

The Visual Contagions project’s sources indicate that before 1950, only a few types of images circulated internationally. By algorithmically analysing the corpus, the project has identified four categories of twentieth-century visual blockbusters, i.e. image subjects that have circulated the most across time and space, which include portraits and bust photographs, religious images, works of art (both ancient and modern), and photographs of automobiles and other industrial objects such as gramophones, bicycles, and cameras.¹⁹ This information provides a starting point for an epidemiological approach to understanding the visual globalization of the past. Upon examining the

18 Digital exhibition for the Jeu de Paume museum’s *Espace de création numérique* (Spring 2022), episode 3.
 19 Detailed analysis in Béatrice Joyeux-Prunel, Nicola Carboni, Adrien Jeanrenaud, Cédric Viaccoz, Céline Belina, Thomas Gauffroy-Naudin, and Marie Barras, ‘Un œil mondial? La mondialisation par l’image au prisme du numérique – le cas du projet Visual Contagions’, *Sociétés & Représentations*, 55.1 (2023), 203–26.

journals where these images were published, it became apparent that only certain types of images facilitated global circulation during the first half of the twentieth century. Only a few were *Bilderfahrzeuge* for globalization, to use Aby Warburg's neologism, the vehicles of visual globalization.²⁰ For example, illustrated newspapers tended to remain within national boundaries, with French Sunday illustrated supplements being produced by a single printing house and distributed locally under different titles. However, specific magazines were responsible for the more international circulation of images. Art magazines played a pivotal role in disseminating the illustrations collected in the corpus on a global scale, particularly for reproductions of artistic images and occasional advertising inserts. This was particularly notable in the case of images of automobiles.²¹

The Case of Avant-Garde Journals: A Changing Geopolitics

The global circulation of images is particularly intriguing in the case of avant-garde images and magazines. When examining art history, the concept of centres and peripheries is often alluring, as are the ideas of genealogies, influences, and precedence in artistic innovation. This may be due to the fact that, historically, the conception and circulation of artworks were based on centralized logics. Nevertheless, a more distant analysis raises doubts about this perspective, and prompts further investigation into cases that challenge the notion of a centralized geography of artistic innovation in the twentieth century.

Our corpus for this specific study includes a total of 16,123 journals, of which ninety-eight have been identified as 'avant-garde' based on specialized bibliographic sources.²² To gain a deeper understanding of how innovative images circulated within the illustrated press, we analysed the exchange of images between avant-garde and non-avant-garde journals in our corpus. Whether we examine the journals synchronically, diachronically, or across all periods, isolating a single centre of international avant-garde visual culture has become an increasingly challenging task.

From a synchronic perspective, we observe that what we call 'primitive images', or images that may have initiated a visual circulation of reproductions, were widely distributed across a variety of countries, with Germany and France having the largest number of journals. Other countries, such as Poland and what today is the Czech Republic, were also represented. The most visually connected journals were *Cahiers d'art*

20 Andreas Beyer et al., eds, *Bilderfahrzeuge: Aby Warburgs Vermächtnis Und Die Zukunft Der Ikonologie* (Berlin: Verlag Klaus Wagenbach, 2018).

21 Nicola Carboni, 'Automobile, when you caught us...', in *Visual Contagions: An Exhibition for the Jeu de Paume's Space for Digital Creation*. Nicola Carboni, 'Mediatization of the Early Automobile: A Visual Analysis of the Illustrated Press in the Late 19th and Early 20th century', *Art@s Bulletin*, 12.1 (2023), article 10.

22 The collection of data was made by searching in digital archives and libraries the digital versions of avant-garde journals described in the following secondary sources: Brigitte Léal and Bernadette Caille, *Paris-Barcelone: de Gaudí à Miró* (Paris: Réunion des Musées Nationaux, 2001); Gladys C. Fabre et al., *Van Doesburg & the International Avant-Garde: Constructing a New World* (London: Tate Publishing, 2009); Yves Chevrefils Desbiolles, *Les Revues d'Art à Paris, 1905-1940* (Paris: Ent'revues, 1993); Henri Béhar and Catherine Dufour, *Dada, circuit total* (Lausanne: L'Âge d'Homme, 2005); Jacqueline Chénieux-Gendron, Françoise Le Roux, and Maïté Vienne, *Le Surréalisme autour du monde 1929-1947: Inventaire analytique de revues surréalistes ou apparentées* (Paris: CNRS Editions, 1994); <http://www.dadacompanion.com/journals/index.php>, no longer available; the Davidson E.H. Little Library; [The International Dada Archive](#) and its Digital Dada/Surrealism Journal database; Peter Brooker and Andrew Thacker, eds, *The Oxford Critical and Cultural History of Modernist Magazines, 1. Britain and Ireland 1880-1955* (Oxford: Oxford University Press, 2009); Peter Brooker and Andrew Thacker, eds, *The Oxford Critical and Cultural History of Modernist Magazines, 2. North America 1894-1960* (Oxford: Oxford University Press, 2012); Sascha Bru and Andrew Thacker, eds, *The Oxford Critical and Cultural History of Modernist Magazines: Europe 1880-1940* (Oxford: Oxford University Press, 2013); Krisztina Passuth, *Les avant-gardes de l'Europe centrale, 1907-1927* (Paris: Flammarion, 1988).

and *L'Esprit nouveau*, followed by three German journals, *Die Form*, *Der Querschnitt*, and *Der Sturm*, as well as the Parisian journal *Les Soirées de Paris* (Fig. 6). It is worth noting that although these journals were based in Paris, they were actually headed by foreign editors: for instance, Polish-Italian writer Guillaume Apollinaire edited *Les Soirées de Paris*, Swiss architect Le Corbusier edited *L'Esprit nouveau*, and Greek art critic Christian Zervos (Χρήστος Ζερβός) edited *Cahiers d'art*.

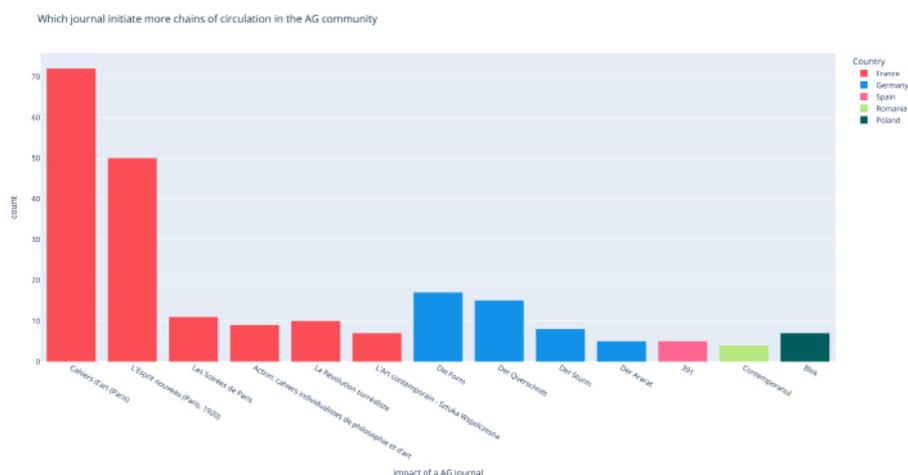


Fig. 6 The number of primitive images in the corpus of avant-garde images circulating between 1910 and 1945, by magazine.

From a refined and diachronic perspective, it becomes apparent that specific cities and journals held greater centrality and visual connectivity compared to others, depending on the period being analysed. Prior to 1910, there were few, if any, avant-garde illustrated magazines. Some literary magazines reproduced the works of their painter friends, such as the *Revue blanche* (1889–1903, Liège and Paris) or the revue *PAN* (1895–1900, Berlin), which featured Divisionist and Nabi painting. In 1904, the foundation of artistic vanguardist illustrated magazines began with the revue *Tendances Nouvelles* (Angers). However, it was in the early 1910s that the avant-garde seized upon the press as a means of propaganda, and it became a symbolic site of career building, as important as the Salon and the gallery.²³

Surprisingly, the Czech cubist group Skupina výtvarných umělců [Group of Artists] — founded in Prague in 1911 by painters Otto Gutfreund, Emil Filla, and Bohumil Kubišta, who had passed through Germany and Paris before returning to their home country — played a crucial role during this period, with their magazine *Umělecký měsíčník* [Art Monthly] ranking as one of the most visually connected journals. *Les Soirées de Paris*, founded in 1912 by Guillaume Apollinaire in Paris, ranked second, followed by the German expressionist magazine *Der Sturm*, founded in Berlin in 1910 by Herwalth Walden. In last position was the Parisian journal *Montjoie!*. These first visualizations confirm the argument, put forth in a previous publication and based on diverse sources such as archives, correspondence, and exhibition catalogues, that by 1913 Paris was no longer the centre of reference for the international avant-garde, with growing competition from Berlin.²⁴ This balance was both challenged and confirmed by the 1914–18 war, with the withdrawal of the journals published in Paris — *Montjoie!*

23 See Joyeux-Prunel, *Les Avant-Gardes Artistiques 1848–1918*.

24 *Ibid.*, chapter 10.

disappeared in July 1914, followed by *Les Soirées de Paris* in August 1914. After 1915, new periodicals were created in Paris, such as *Le Mot*, *SIC*, and *Nord-Sud*, which followed a patriotic anti-German agenda and reproduced only artworks that had been made in France. By contrast, journals published in Germany (*Der Sturm* and *Die Aktion*) and Northern Europe (*De Stijl*) endeavoured to circulate cubist, expressionist, and abstract images.

Following the immediate aftermath of the war, the rejuvenation of journals commenced in 1920. The domain of avant-garde journals was broad, with numerous publications situated in Central Europe. The presence of primitive images in Polish and Romanian journals such as *Praesens*, *Blok*, and *Integral* is especially noteworthy. Subsequently, a new balance was established after 1927, in which Parisian and German magazines competed in the circulation of avant-garde images. The gradual disappearance of central European magazines, primarily due to the emergence of non-democratic regimes in these regions, is noteworthy.

In a similar vein, the new and complete dominance of French (Parisian) magazines in initiating avant-garde artistic circulations can largely be attributed to the discontinuation of German and Central-European reviews after 1932, with the accelerating rise of Nazism in Germany — first in the Länder, and then on a federal scale — and the advent of traditionalist or fascist governments in Poland, Hungary, Romania, and Yugoslavia. In particular, the international outreach of surrealist journals occurred belatedly, validating previous research based on archival work and the study of exhibition catalogues that reconsider the so-called international early triumph of Surrealism.²⁵ The fact that *La Révolution surréaliste* (1924–29) did not exchange images with other journals confirms the isolation of André Breton's movement in the international avant-garde until the early 1930s, in contrast to its contemporaries (and rivals) *Abstraction-Création* and *Document*. Furthermore, the Explore platform indicates that numerous avant-garde journals in our corpus did not exchange images with their counterparts (at least twenty-six journals, and potentially more).²⁶ The French Dadaist movement and early Surrealism may appear as potentially international literary trends, but not necessarily from an artistic and visual standpoint. However, the late 1920s witnessed the disappearance of most internationally oriented Constructivist magazines, often due to the authoritarian shift in Central European countries or publishers' transition to professional activities, such as architecture or design, which were less aligned with avant-garde movements. As a result, the supposed international 'triumph of Surrealism' not only came later than 1930, but also its visual centrality was possibly a success by default — due to the elimination of the avant-gardes in Nazi Germany and Central Europe — as much as it was a symbolic victory associated with the success of Surrealism in the art market. *Cahiers d'art* and *Minotaure* were the most visually connected journals after 1933, while *Abstraction-Création*, which was still influential in 1932, declined until its closure in 1936. Subsequently, surrealist journals superseded those that favoured abstract-geometric art.

The Brownian Movements of Avant-Garde Images

Examining the image diffusion circuits more closely reveals how they changed over time. Prior to 1922, Berlin served as a central hub for the circulation of avant-garde images,

25 Joyeux-Prunel, *Les Avant-Gardes Artistiques 1918–1945*.

26 By alphabetical order: 291, 391, *Acéphale*, *Amauta*, *Blast*, *Dalibor*, *Dau al Set*, *Der Dada*, *Der Gegner*, *Der Zweepmann*, *Entretiens*, *FREYD*, *Hélix*, *Klingen*, *L'Art contemporain – Sztuka Współczesna*, *L'Elan*, *La Chimère*, *Le Coeur à barbe*, *Martin Fierro: Periódico Quincenal de Arte y Crítica Libre*, *New verse*, *Nowa Sztuka*, *Sécession*, *Surréalisme*, *The Blindman*, *The Egoist*, *The Glebe*, *Ultra*.

with a few journals based in Paris. The circuit cannot be reduced to a Franco-German network that extended to Central Europe, as, for instance, reproductions of works by Alexander Archipenko and Michael Larionov that were published by Florent Fels in the Swiss magazine *Action* between 1920 and 1922 were also found in *Der Sturm* one or two years later (Fig. 7). Besides, reproductions of works by Russian artists in exile suggest that the Paris-Berlin circuit had roots in Switzerland and Russia. Many Parisian cubist-like images circulated before 1922, such as the illustrations by Parisian artist Fernand Léger of Swiss writer Blaise Cendrars's poem *J'ai tué* in the early 1920s (Fig. 8). The internationalization of these images often passed through Berlin. Other novel non-Parisian references were also emerging, such as with the circulation of Giorgio De Chirico's paintings from the end of the war onwards.²⁷



Fig. 7 Reproductions of Alexander Archipenko's work in *Action* (October 1920) and *Der Sturm* (May 1923, Cover and page 73). Princeton Blue Mountain – Princeton University.

From around 1922 to 1924, the international circulation of avant-garde images lost its Franco-German orientation. Fewer Parisian images were represented, and the circulation had no clear direction. This was a time when avant-garde magazines proliferated in Central Europe, particularly in the constructivist movement and especially around Prague and Warsaw. The Soviet example took a central place in this multifocal geography. Reproductions of Vladimir Tatlin's *Monument to the Third International* (1919–20) appeared in *L'Esprit nouveau* in 1922, and in *Veshch, Broom*, and the *Little Review* during the same year; the same images circulated in the German journal *Merz* during 1923 and 1924, and in generalist magazines *La Revue de l'art ancien et moderne* and *Dokumentum* during 1925 and 1927 respectively (Fig. 9). It is necessary to clarify how journal editors obtained the picture of Tatlin's *Monument*, such as how and how many photographic plates were sent out from Russia, whether these plates circulated from one journal to the next, or if the editors themselves took a picture from a journal.

27 For instance, the *Metaphysical Interior with Large Factory* of 1916–17 (Staatsgalerie Stuttgart) was reproduced in *Valori Plastici*, 7–8 (July 1919), *Das Kunstblatt*, 10 (Berlin, October 1919), 319, in the book *Giorgio de Chirico* (Rome, 1919), and in the catalogue of the exhibition *Das Junge Italien*, which circulated in 1921 from Berlin and Hannover (Kestner Gesellschaft) to Dresden. Similar artworks by De Chirico (a painting in the painting in an interior with a window) were reproduced in *Der Cicerone* (Leipzig, 1920) and *Esprit nouveau* (Paris, 1924).

PLOTTING THE GEOPOLITICS OF TWENTIETH-CENTURY MODERN AND AVANT-GARDE ILLUSTRATED PERIODICALS



Fig. 8 The printed circulation of Fernand Léger's illustrations for Blaise Cendrars' poem *J'ai tué*. Original edition: Blaise Cendrars, *J'ai tué* (Paris: La Belle Edition, 1918). Screenshot of the visualcontagions.unige.ch/explore platform.

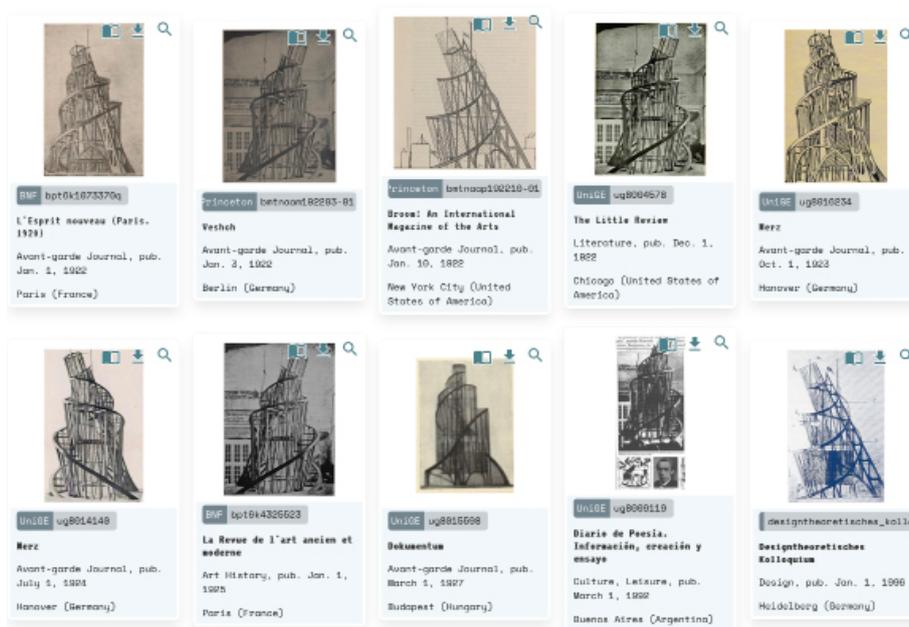


Fig. 9 The international circulation of Vladimir Tatlin's Monument to the Third International (1919–20) in illustrated periodicals. Screenshot of the visualcontagions.unige.ch/explore platform.

Only traditional research in archives can answer this type of question, to complement the hypotheses arising from the computational approach.

Constructivist images continued to circulate throughout the 1920s. *L'Esprit nouveau* was connected to many different journals, sharing images with French, German, American, Dutch, Norwegian, or Polish magazines representing diverse interests and disciplines, not solely those of the avant-garde. The images that circulated between

these journals were mainly architectural, particularly pictures of skyscrapers. A growing number of avant-garde magazines reproduced non-artistic images, which until then had never appeared in this type of publication. During this period, there emerged a trend towards appreciating and circulating unusual images, which linked constructivist magazines to the broader iconography of the era's illustrated press. In contrast, magazines representing other movements showed little interest in the non-artistic images of their time, a trend that is confirmed not only by images but also by texts. Le Corbusier himself emphasized the importance of an 'aesthetic that emerges from the creations of modern industry' that 'the eyes do not see'.²⁸ This was echoed in Argentina with the manifesto of *Martín Fierro* in 1924, which stated that 'Martín Fierro is more at home in a modern transatlantic liner than in a Renaissance palace'.²⁹ In Barcelona, a visual diffusion of liners was observed, and young Salvador Dalí was inspired by the magazines present at the Libreria Verdaguer held by his uncle Anselm Domènech. Dalí began to add liners to his paintings in 1925.³⁰

During the mid and late 1920s, the dissemination of images through periodicals also reflected the strength of the German-Central European network of exchanges and the significance of the industrial, post-cubist, and constructivist aesthetics of the era. There were numerous, frequent instances of Warsaw-Berlin transfers, such as the photomontage illustrations by Szczuka that passed from *Blok* (1924) to *Der Sturm* (1928), and the *Proun* by Malevich, which passed from *Praesens* (1926) to *Der Sturm* (1927). *Der Sturm* itself emerged as a hub of visual circulation between journals in the late 1920s, connecting Central Europe and the rest of the world. For example, the German journal reproduced an artwork by Sidney Hunt, which was possibly seen by Herwarth Walden, *Der Sturm's* editor, in *Contimporanul*, and illustrated an *Arbeiterbild* by Schwitters, published in *Der Cicerone* in 1919, which was also featured in *Der Sturm* in 1926 and later in *Transition*.³¹ In addition, several images were exchanged between *Der Sturm* and the Czech magazine *Horizont* in 1926 and 1927.³² In contrast to *Der Sturm*, the Parisian journals of the late 1920s embraced fewer cutting-edge aesthetics, often featuring illustrations from the 1910s. For example, cubist paintings that were originally published in Prague during the 1910s and circulated in German journals a few years later, sometimes a few months later, were only reproduced by *Cahier d'art* in Paris in 1927.

Why Parisian Visual Isolation?

The visual isolation of the Parisian journals in the 1920s can be attributed to the perception of their publishers, who believed they were at the forefront of the international modern art scene and therefore focused solely on what was happening in Paris. On the artists' side, however, most were genuinely seeking to have their works reproduced on an international scale. In his 1929 book, *La Stratégie artistique*, art critic Georges Turpin

28 Le Corbusier-Saugnier, 'Des yeux qui ne voient pas... les Paquebots', *Esprit nouveau*, 8, 845-sq (non paginated); also published in id., *Vers une architecture* (nouvelle édition revue et augmentée – IIe édition; Paris: Collections de l'Esprit nouveau, 1925, 65-80).

29 *Manifesto de 'Martín Fierro': periódico quincenal de arte y crítica libre*, 4 (Buenos Aires, 15 May 1924). Documents of 20th-century Latin American and Latino Art, a digital archive and publications project at the museum of fine arts, Houston (ICAA – MFAH).

30 For instance Salvador Dalí (1904-89), *Composition avec Trois personnages (Académie néo-cubiste)*, 1926. Oil on canvas, 200x190 cm, Museo de Montserrat, Barcelona.

31 *Contimporanul* (Bucharest, 1927-2) and *Der Sturm* (Berlin, 1928, 91), *Der Cicerone* (Leipzig, 1919), *Der Sturm* (Berlin, 4 January 1926), *Transition* (Paris, 1 June 1927).

32 For instance, *Der Sturm* (Berlin, 12 January 1926) and *Horizont* (Brno, 1 January 1927; or *Der Sturm* (Berlin, 6 January 1927), and *Horizont* (Brno, March 1927).

PLOTING THE GEOPOLITICS OF TWENTIETH-CENTURY MODERN AND
AVANT-GARDE ILLUSTRATED PERIODICALS

included a chapter on ‘means of propaganda’, in which he emphasized the importance of visual supports such as postcards and illustrated journal articles.³³ Turpin argued that

magazines can be addressed to foreign magazine editors and foreign dealers. They serve as a very serious means of propaganda because they widen the field of prospection and prepare the opening of new markets. French artists obviously have a considerable interest in spreading their names and their works abroad. The most certain means is the diffusion of these by the reviews and particularly by those publishing articles illustrated with reproductions.³⁴

For the avant-garde artists who were active from the 1910s, the question of centre versus periphery was not their primary concern. Rather, the issue was finding a means of circulating images, with magazines being the most accessible and effective outlets for this purpose.

Besides having a symbolic effect on artists’ reputation, the reproduction of these images is likely to have influenced the monetary value of their artworks. According to Léa Saint-Raymond’s research, the reproduction of works in auction market catalogues statistically contributed to increases in their auction prices, a fact that was not lost on many galleries during the 1920s.³⁵ Indeed, to verify the impact of reproductions in the journals, not just in sales catalogues, one only needs to observe the attitudes of art dealers themselves. *Der Sturm* is one such example, even though Walden had launched his magazine before his gallery *Der Sturm* was opened. Numerous art dealers created their own illustrated magazines during this period.³⁶ Léonce Rosenberg’s *Bulletin de l’Effort moderne* was associated with his gallery in Paris, for instance, and Bernheim-Jeune launched the *Bulletin de la Vie artistique* in Paris in 1920, under the directorship of Félix Fénéon, the former director of the gallery’s modern section.³⁷ Other art dealers, such as Paul Guillaume (*Les Arts à Paris*, 1918) and the Parisian Galerie Vavin (*Les Arts plastiques*, 1925), also published their own magazines. Similarly, the art dealer Alfred Flechtheim, who opened a gallery in Düsseldorf in 1913, founded the magazine *Der Querschnitt* in January 1921.³⁸

The increased presence of Parisian dealers in the avant-garde magazine scene may have explained the closure of Parisian press outlets to a certain type of illustration in around 1925. Despite the independence these Parisian publications sought to demonstrate, they were in close collusion with the galleries that sponsored them, and the role they played in advertising was crucial. The dealers’ magazines emphasized connoisseurship over critical debate, with the works and styles that were promoted by the gallery being placed under an expert eye that provided both aesthetic and financial value. Magazines’ predilection for interviews, particularly in the *Bulletin de la vie artistique*, kept the public abreast of the latest artistic developments in Paris. Nevertheless, the positions taken by these publications, and the images they featured, always supported the agendas of the gallery owners. The impressive photographic catalogue of Léon

33 Georges Turpin, *La Stratégie artistique – Précis documentaire et pratique suivi d’opinions recueillies parmi les personnalités du monde des arts et de la critique* (Paris: Editions de l’Epi, 1929), pp. 113, 115.

34 Ibid., p. 115; our translation.

35 Léa Saint-Raymond, “Ce n’est pas de l’art mais du commerce!” L’irrésistible ascension du marché comme prescripteur’, *Marges*, 28 (2019).

36 Malcolm Gee, *Dealers, Critics, and Collectors of Modern Painting: Aspects of the Parisian Art Market between 1910 and 1930* (New York: Garland, 1981). See also Joyeux-Prunel, *Les avant-gardes artistiques 1918–1945*, chap. 1.

37 On Fénéon and Bernheim-Jeune see Béatrice Joyeux-Prunel, ‘Fénéon at Galerie Bernheim-Jeune’, in *Félix Fénéon the Anarchist and the Avant-Garde* (New York: MoMA, 2020), pp. 139–47.

38 Flechtheim later sold this publication, in November 1924, although he continued to contribute to its contents.

Rosenberg's magazine did not often relate to the articles it illustrated, for instance; illustrations printed in dealers' magazines were, in effect, efforts to valorize the stock of their galleries.

In contrast, magazines published in Central Europe were mostly led by individuals who were less invested in selling their own stable of artists, or who needed to showcase their connections with the international world of the avant-garde to valorize the latter. Even the publication of foreign images could serve as a pretext to build and strengthen international artistic networks — a necessity that Parisian galleries and magazines did not believe they needed in the 1920s.

The Visual Contagions Project's technical apparatus suggests that a photographic plate circulated between two journals, as the same images were often published on dates that were close to each other by two magazines that were geographically close. For example, *De Stijl* (Delft) and *Levende Kunst* (The Hague) both published a reproduction of Archipenko's *De Dans* (Dancers, 1912) within three weeks of each other in December 1917.³⁹ For young journals, editors carefully observed what was published in other magazines; archives provide insights into how these individuals acquired photographs from other magazines, artists, or dealers. Theo van Doesburg, who published *De Stijl*, wrote from Berlin to Tristan Tzara, the editor of *Dada*, in 1921, requesting publications where he could find interesting images to reproduce:⁴⁰

In my atelier, I have set up a table with all the avant-garde and dada magazines for the friends of the modern state of mind. In the middle, the most revolutionary: Statliches [sic] Bauhaus, Weimar. There is a special periodicals room for students there. So, send some publications to this address.⁴¹

Subscribing to foreign journals allowed editors to see what was being reproduced, but obtaining photographic plates was still necessary. Moreover, the process of obtaining them offered good opportunities to expand their networks and promote their own journals. These plates were either requested and sent by mail or picked up and brought in suitcases by a collaborator — we are in the process of gathering more archival evidence about this. Tristan Tzara publicized *Dada* by exchanging texts and illustrations throughout Europe and as far away as the United States, soliciting the collaboration of prominent modernists with a mimeographed form letter.⁴² The internationalization of *Dada's* illustrations reflected Tzara's gradual expansion of both the journal and his own networks. For instance, the first issue of *Dada*, which was published in July 1917, features images produced by Tzara's friends; images in the second issue, published in December 1917, were sourced from within the network of Robert Delaunay and Wassily Kandinsky, an influential artistic grouping of the pre-war period. By the third issue, illustrations were more international and innovative; in this way, the *Dada Anthology* moved resolutely towards a Dadaist iconography. After the first, Paris-focused issue, Tzara considered different centres of artistic production. The increasingly international

39 Archipenko's *Dancers* were also reproduced in *Samleren*, Copenhagen, in May 1926, and in *Der Sturm*, Berlin, in July 1926.

40 Krisztina Passuth, 'De Stijl and the East-West Avant-Garde: Magazines and the Formation of International Networks', in Gladys Fabre et Doris Wintgens Hötte, eds, *Van Doesburg & the International Avant-Garde*, p. 20.

41 Théo van Doesburg, *Qu'est-ce que Dada? Theo van Doesburg, Dr Doesburg, Mr Bonset et le petit chien dada* (Paris: l'Echoppe, 1992), pp. 44–45.

42 Michel Sanouillet, *Dada à Paris* (new edition augmented by Anne Sanouillet, Paris: CNRS Éditions, 2005), p. 547, letter from Paul Guillaume to Tzara, 28 June 1916: the dealer thanks Tzara for sending *Cabaret Voltaire* and suggests getting in contact with Marius de Zayas, 500 Fifth Avenue in New York. In a letter written on 16 November 1916, Zayas thanks Tzara for *Cabaret Voltaire* and promises he will distribute the journal (*ibid.*, no 225, p. 568).

outlook of his magazine may also be attributed to the growing ease with which he was able to obtain images to reproduce, and because he himself travelled more. Notably, the most internationally open avant-garde journals were run by editors who travelled the most. This may help to explain why Parisian avant-garde journals of the 1920s were relatively closed to foreign images: their leaders travelled less than those of the so-called peripheries, perhaps thinking that the world would come to them.

The circulation of surrealist images during the 1930s followed a similar pattern. The decrease in image circulation in this decade, mentioned earlier, may have been due to the greater difficulty experienced by magazine editors in moving from one country to another, paying for the shipment of photographic originals, or obtaining artworks and reproductions to photograph. This may have contributed to a lower circulation of surrealist and abstract images during the 1930s. In our corpus, very few surrealist images were reproduced in more than one journal or circulated internationally, with the exception of a Max Ernst piece, *Der Wald fliegt weg*, which, exhibited in 1918 by the gallery Flechtheim in Berlin and owned by the painter ('Prof.') Karl Hofer, was probably reproduced thanks to an original plate provided by Flechtheim.⁴³ The international circulation of images in printed journals was facilitated by the movement of people and objects — journals and photographic plates — as well as complex artistic and commercial strategies. In these contexts, it is clear that geopolitics does not explain everything, and that the dynamics of the dissemination and redistribution of images are more complex than our simplistic narratives of centre and periphery suggest.

Conclusion

In summary, the distant, global methods used in our investigation of the history of illustrated periodicals offer fresh insights into the dissemination and reception of visual and narrative content across different temporal and geographical contexts. By harnessing computational tools to analyse massive quantities of digitized data, these methods provide a more comprehensive and nuanced understanding of the intricate networks of circulation and exchange that characterized the illustrated press during the 1920s and 1930s. Moreover, by challenging the traditional emphasis on national and metropolitan centres of production and consumption, the data prompt us to re-examine how global histories of culture and politics have been constructed and narrated.

While this approach may diverge from conventional historical methods, it can be both intellectually stimulating and serendipitous. By allowing researchers to examine hundreds of journals and images simultaneously, digital sources and tools can uncover new sources of information that may not have been identified previously. Furthermore, the visual approach can challenge established narratives, encouraging researchers to explore sources that are distributed globally and free from hierarchical constraints. This can generate fresh hypotheses and perspectives on the international geopolitics of illustrated journals.

However, it should be noted that the digitized sources used in these distant approaches are decontextualized and dematerialized, and that their computational processing reduces them to pure images. Consequently, they must be supplemented by close readings of sources and careful contextualization of images and narratives, using documents in archives and the interpretation of works within their human, social, material, theoretical, and economic contexts. It is essential to recognize that remote approaches do not replace traditional methods of historical research but rather

43 According to the caption of the work's reproduction in *Der Cicerone*, Jahrgang XXI, erstes Januarheft 1929 (Heft 6), Kinkhardt und Biermann Verlag, Leipzig/ Berlin, 169.

complement them, offering new avenues of inquiry that can be further explored and tested through the integration of multiple sources and methods. Thus, the global, distant approaches to the history of illustrated periodicals offer significant potential for historical research, inviting us to rethink the past and its legacies in the present.

Béatrice Joyeux-Prunel is an art historian, Full Professor at Geneva University in Switzerland (UNIGE), and chair of Digital Humanities. Since 2009, she has directed *Artl@s*, an international research platform dedicated to the study of artistic globalization. In this context, she coordinates the SFNS *Visual Contagions* project at UNIGE (2021–24). Joyeux-Prunel’s research focuses on the social and global history of art in the contemporary period, with an emphasis on globalization through images. She employs digital tools and techniques to investigate these themes, as well as more traditional art historical methods. She has authored several articles and books on the subject, including *Les avant-gardes artistiques – une histoire transnationale 1848–1918* (Gallimard, Folio histoire in paperback, 2016); *Les avant-gardes artistiques – une histoire transnationale 1918–1945* (Gallimard Folio histoire in paperback, 2017); and *Naissance de l’art contemporain (1945–1970) – Une histoire mondiale* (CNRS Editions, 2021) — English translation forthcoming.

Nicola Carboni is a Postdoctoral Researcher within the Visual Contagions project at the University of Geneva, where he also teaches courses on Digital Image and Knowledge Graph. Previously Fellow at the Swiss Art Research Infrastructure – University of Zurich and Digital Humanities Fellow at the Harvard Center for Italian Renaissance Studies. He completed his PhD in Engineering, on the topic of Knowledge Representation and Visual Heritage, at the CNRS & NTUA where he was also previously appointed Marie Curie Fellow. He works on the intersection between knowledge graph, big visual data, and cultural interpretation.

Marie Barras is a PhD candidate within the Visual Contagions project at the University of Geneva, where she works on the global circulation of fashion images between 1858 and 1920, under the supervision of Prof. Béatrice Joyeux-Prunel. She holds an MA in History of Art and in Historical and Scientific Study of Religions from the University of Lausanne. In 2022, she completed a Master of Advanced Studies in Cultural Heritage and Museology and, the following year, a Certificate of Specialization in Digital Humanities at the University of Geneva. In addition to her PhD and after various professional experiences in cultural institutions, she works as a digital projects and data manager at the Documentation and Research Centre of the Musée d’Art et d’Histoire in Geneva.

Bibliography

- Béhar, Henri, and Catherine Dufour, *Dada, circuit total* (Lausanne: L’Âge d’Homme, 2005)
- Beyer, Andreas, et al., eds, *Bilderfahrzeuge: Aby Warburgs Vermächtnis Und Die Zukunft Der Ikonologie* (Berlin: Verlag Klaus Wagenbach, 2018)
- Brooker, Peter, and Andrew Thacker, eds, *The Oxford Critical and Cultural History of Modernist Magazines, 1. Britain and Ireland 1880–1955* (Oxford: Oxford University Press, 2009)

PLOTTING THE GEOPOLITICS OF TWENTIETH-CENTURY MODERN AND
AVANT-GARDE ILLUSTRATED PERIODICALS

- Brooker, Peter, and Andrew Thacker, eds, *The Oxford Critical and Cultural History of Modernist Magazines, 2. North America 1894–1960* (Oxford: Oxford University Press, 2012)
- Bru, Sascha, and Andrew Thacker, *The Oxford Critical and Cultural History of Modernist Magazines: Europe 1880–1940* (Oxford: University Press, 2013)
- Bruner, Jerome, 'The Narrative Construction of Reality', *Critical Inquiry*, 18.1 (1991), 1–21
- Carboni, Nicola, 'Automobile, when you get us...', in *Visual Contagions: An Exhibition for the Jeu de Paume's Space for Digital Creation*
- Carboni, Nicola, and Béatrice Joyeux-Prunel, 'In the project's kitchen – or behind the scenes of Big Data', *Contagions visuelles/Visual Contagions*
- Caron, Mathilde, et al. 'Emerging Properties in Self-Supervised Vision Transformers', *Proceedings of the IEEE/CVF International Conference on Computer Vision* (2021), 9650–60
- Casanova, Pascale, *The World Republic of Letters* (Cambridge, MA: Harvard University Press, 2004)
- Champenois, Robin and Joyeux-Prunel, Béatrice, 'Visual Contagions: extraction et traitement d'images pour l'étude globale de la circulation d'images illustrées', *Humanistica*, 2023
- Chénieux-Gendron, Jacqueline, Françoise Le Roux, and Maïté Vienne, *Le Surréalisme autour du monde 1929–1947: Inventaire analytique de revues surréalistes ou apparentées* (Paris: CNRS Editions, 1994)
- Chevrefils Desbiolles, Yves, *Les Revues d'Art à Paris, 1905–1940* (Paris: Ent'revues, 1993)
- [Contagions visuelles/Visual Contagions](#). Digital exhibition for the Jeu de Paume museum's *Espace de création numérique* (Spring 2022)
- The [Davidson E.H. Little Library](#)
- Fabre, Gladys C., et al., *Van Doesburg & the International Avant-Garde: Constructing a New World* (London: Tate Publishing, 2009)
- Gee, Malcolm, *Dealers, Critics, and Collectors of Modern Painting: Aspects of the Parisian Art Market between 1910 and 1930* (New York: Garland, 1981)
- Guilbaut, Serge, *How New York Stole the Idea of Modern Art: Abstract Expressionism, Freedom, and the Cold War* (Chicago, IL: University of Chicago Press, 1985)
- Impett Leonardo, 'Painting by Numbers: Computational Methods and the History of Art' (unpublished doctoral thesis, École Polytechnique Fédérale, Lausanne, 2020)
- [The International Dada Archive](#) and its Digital Dada/Surrealism Journal database
- Joyeux-Prunel, Béatrice, *Les avant-gardes artistiques 1848–1918: Une histoire transnationale* (Paris: Gallimard, 2015)
- , 'Provincializing Paris: The Center-Periphery Narrative of Modern Art in Light of Quantitative and Transnational Approaches', *Artl@s Bulletin*, 4.1 (2015), 40–64
- , *Les avant-gardes artistiques 1918–1945: Une histoire transnationale* (Paris: Gallimard, 2017)
- , 'Internationalization through the Lens: Nineteenth- and Twentieth-Century Art Periodicals and Decentred Circulation', *Journal of European Periodical Studies*, 4.2 (2019), 48–69
- , 'Fénéon at Galerie Bernheim-Jeune', in *Félix Fénéon the Anarchist and the Avant-Garde* (New York: MoMA, 2020), pp. 139–47
- , 'Provincializing New York', *Artl@s Bulletin*, 10.1 (2021), article 12 [accessed 24 October 2022]
- Joyeux-Prunel, Béatrice, Nicola Carboni, Adrien Jeanrenaud, Cédric Viaccoz, Céline Belina, Thomas Gauffroy-Naudin, and Marie Barras, 'Un œil mondial? La

- mondialization par l'image au prisme du numérique – le cas du projet Visual Contagions', *Sociétés et représentations*, 75.1 (2023) [accessed 23 February 2024]
- Le Corbusier-Saugnier, 'Des yeux qui ne voient pas... les Paquebots', *Esprit nouveau*, 8, 845-sq (non paginated) ; also published in id., *Vers une architecture* (nouvelle édition revue et augmentée – IIe édition ; Paris: Collections de l'Esprit nouveau, 1925, 65-80)
- Léal, Brigitte, and Bernadette Caille, *Paris-Barcelone: de Gaudí à Miró* (Paris: Réunion des Musées Nationaux, 2001)
- Manifiesto de 'Martin Fierro': periódico quincenal de arte y crítica libre*, 4 (Buenos Aires, 15 May 1924). [Documents of 20th-century Latin American and Latino Art](#), a digital archive and publications project at the museum of fine arts, Houston (ICAA – MFAH).
- Monnier, Tomn and Aubry, Mathieu, 'docExtractor: An Off-the-Shelf Historical Document Element Extraction', 17th International Conference on Frontiers in Handwriting Recognition (ICFHR) (2020)
- Passuth, Krisztina, *Les avant-gardes de l'Europe centrale, 1907–1927* (Paris: Flammarion, 1988)
- Saint-Raymond, Léa, "Ce n'est pas de l'art mais du commerce!" L'irrésistible ascension du marché comme prescripteur', *Marges*, 28 (2019) [accessed 21 February 2023]
- Sanouillet, Michel, *Dada à Paris* (new edition augmented by Anne Sanouillet, Paris: CNRS Éditions, 2005)
- Smits, Thomas, *The European Illustrated Press and the Emergence of a Transnational Visual Culture of the News, 1842–1870* (London: Routledge, 2019)
- Turpin, Georges, *La Stratégie artistique – Précis documentaire et pratique suivi d'opinions recueillies parmi les personnalités du monde des arts et de la critique* (Paris: Editions de l'Epi, 1929)
- Van Doesburg, Théo, *Qu'est-ce que Dada? Theo van Doesburg, Dr Doesburg, Mr Bonset et le petit chien dada* (Paris: l'Echoppe, 1992)
- Van Noord, Nanne, 'A Survey of Computational Methods for Iconic Image Analysis', *Digital Scholarship in the Humanities*, 37.4 (2022)
- [Visual Contagions](#). (École normale supérieure, Paris, 2019–22; University of Geneva, 2021–24)
- Wevers, Melvin, and Smits Thomas, 'The Visual Digital Turn: Using Neural Networks to Study Historical Images', *Digital Scholarship in the Humanities*, 35.1 (2020)