Towards an Experimental Bibliography of Hemispheric Reconstruction Newspapers

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Cover Page Footnote

Erratum

Upon publication, the original version of this article incorrectly identified the lead author in the running head. This has been corrected to "Ortiz Baco et al." in the current version.

TOWARD AN EXPERIMENTAL BIBLIOGRAPHY OF HEMISPHERIC RECONSTRUCTION NEWSPAPERS

Joshua Ortiz Baco, Benjamin Charles Germain Lee, Jim Casey, and Sarah H. Salter

Newspapers are not books. At first glance, this statement might not seem all that controversial. In practice, applying the conventional principles of bibliographic description to newspapers can be an exercise in generalizing about hundreds or even thousands of discrete physical objects in order to write a single brief entry.[1] One entry per publication, as the logic goes, leads to treating newspapers as if they are solitary print objects. Static accounts of dynamic publishing histories necessarily leave aside the protean qualities that distinguish a newspaper from manuscripts, pamphlets, broadsides, or codices. Newspapers have issues, on a regular basis. Issues may share many qualities, but most of the time, they also adapt and evolve as needs arise and people change. Perhaps it is time to experiment with new ways of enumerating and describing historical periodicals and serial publications.

This need is especially urgent for the ongoing efforts to recover newspaper histories beyond the canons of white-identifying, Anglophone publications. Efforts to digitize the vast archives of ethnic presses have begun to accelerate in ways that are both very promising and somewhat perilous as they depend on bibliographic work completed before the advent of electronic access to archives and on legacies of systems that have not always esteemed these kinds of materials.[2] Bibliographers working with ethnic newspapers are obligated to make onetime classifications of newspapers by race, ethnicity, or language despite all available scholarship that these categories of identity are social constructions that exist only as they are created and re-created over time.[3] That is, bibliographies of newspapers can entail, at best, a guessing game about affiliations and, at worst, a mandate for essentializing. Does the founder's identity establish the paper's identity? Does the paper's coverage lend itself to a certain perspective? What are the costs and benefits of making projections from these kinds of criteria across the life of a newspaper?[4] Rather than asking

bibliographers to arrive at static descriptions of socially constructed cat-
egories for a medium that itself might alter over time, we can develop
methods for bibliographic treatment of newspapers attuned to the chang-
ing nature of serial publications.[5]

As a way of moving beyond the obligation to extrapolate intrinsic
social identities, we base our bibliographic work on the craft of news-
papers. By following the processes through which newspapers come to
be written, edited, circulated, and read, we can begin to grasp the social
construction of their identities. Newspapers, after all, are ephemeral print
objects that gain meaning only as they are created and exchanged within
historically specific social circuits. As periodical publishing revolves
around an array of activities collectively identifiable as editorship, we can
extend current bibliographic practice by developing a method for describ-
ing newspapers via their editorship.

At times, it must be readily acknowledged, editorship can be difficult
to detect. Editing mostly takes place behind the scenes in a manner that
is typically collaborative and invisible. Reading for editorship, then, may
require looking at editing's visual traces on the page. Along with walls
of text, newspaper pages typically contain seven kinds of visual features:
photographs, illustrations, maps, comics, editorial cartoons, headlines,
and advertisements. These visual features offer a rich set of legible clues
about the work of one or more people editing the newspaper. Even if we
cannot attribute or specify the nature of that work, it is possible to detect
the continuity of certain practices, which is to say the habits, techniques,
or approaches to the craft of each issue of a newspaper. The aggregate of
these visual features, and the array of editorial practices they reflect, con-
stitute the house style embodied in a newspaper's format.

Tracking the visually distinguishing features of a format reveals a great
deal about the editorship of a newspaper. Consistency of format and con-
tent across multiple issues or even volumes conveys an organizing edito-
rial perspective for a newspaper. Additionally, much that is invisible can
come to light in moments when a newspaper breaks from the internal
and often implicit conventions of its format. Such moments provide tan-
gible clues about changes in editorial practices. And since formats—stable
or unsettled—represent editorial responses to actual conditions, com-
munities, and contexts, we can read for larger historical circumstances
and collective experiences in the format of a newspaper.[6] The format
of a newspaper represents an accumulated archive of its social, political,
economic, and cultural lives.

The formats of digitized newspaper collections represent a vast new
avenue for experimental research into the collaborative craft of newspaper

publishing. Our bibliographic work is experimental in a few related senses. We begin with a set of experimental observations about the newspaper formats in Chronicling America and then develop a provisional bibliographic map of those formats. As we discuss below, the formats of historical newspapers were themselves experiments with trials and errors, attempts and recourses. By charting the formats of millions of newspaper pages, this experimental approach dislodges the need for essentializing around categories of fixed identity.

We have begun to develop a machine-learning approach that delves into Chronicling America's millions of newspaper pages. As a step toward developing a broadly applicable vocabulary for describing the multifaceted nature of newspaper formats, our machine learning approach identifies the visual similarity of formats as a way of mapping the relationships between newspapers.[7] This method opens up space for a slightly different approach to the bibliography of newspapers by obviating the need for a bibliographer to assign one essential identity to a newspaper. Instead, we can listen to the language of editorial practice over time. Listening in this manner allows us to learn how editors used format to position their newspaper in relation to other newspapers, editors, and associated communities of contributors and readers. This method offers an iterative view of the social construction of newspapers' identities as racialized, gendered, multilingual, and so on. Our machine learning models are not yet a reliable method for making downstream claims about any newspaper's contents, but they do have much to offer for the preliminary step of bibliographic description, especially in examples such as the Spanish-speaking, multiracial, Reconstruction-era press, where identities were neither simple nor static. As a speculative method for bibliography, these high-dimensional visualizations of newspaper formats contribute a way to chart the vast archives of historical newspapers by delimiting and describing their formats and all that their formats organize systematically, contingently, and iteratively.[8]

This article takes up an instructive example of a newspaper that resists flat description. *La Crónica* was a Spanish-language newspaper published in Los Angeles, California, from 1872 to 1892. The paper's masthead—the roster of editors, printers, and agents—changed nearly three dozen times.[9] The format of the paper changed almost as often. These changes reflected the cultural, political, and legal contours of civic life in Los Angeles. The paper also arose during the era of Reconstruction, following the US Civil War, when the nation had to wrestle with deep and abiding questions about who would belong and how people would connect. *La Crónica* faced these questions every time it tried to change formats. Its editors regularly

had to decide where to place the paper on the spectrum of languages and racial identities in the imperial borderlands of the Reconstruction United States, spaces shaped by the influx of white settlers in Southern California, the slow fading of the Spanish Empire in the hemisphere, and complex relations with Mexico. *La Crónica*'s formats tell these uneven, hybrid, and changing stories.

   La Crónica's resistance to static description helps illustrate the potential for using machine learning to map the mutability of periodical publications. This mapping entails a few distinct steps. First, we graph the patterns of visual features for each year of each newspaper in the Chronicling America collection.[10] Then we compare those patterns against one another in a process explained for lay readers in greater detail below. Next, we distill all those comparisons into two-dimensional visualizations, using a dimensionality-reduction method to draw together visually similar newspapers.[11] The resulting clusters in this visualization are computationally informed hypotheses about visually similar newspapers. There are many clusters, big and small, dense and sparse. Across these clusters, *La Crónica* proves highly unusual. Different years of *La Crónica* show up all over the map, a stark representation of the dramatic shift in the paper's formats across the 1870s and 1880s. As *La Crónica*'s roving formats illustrate, our bibliographic method can invite broader historical questions. The process of following this paper's migrations across different formats, languages, and audiences reveals comparative differences between the evolving cast of people and practices responsible for gathering, assembling, and issuing the newspaper. When read across the expanses of the Chronicling America collection, this method offers a path to better understanding the histories of newspapers and editorship—and all that they served and shaped.

Navigating the Histories of Editorship

This present inquiry has been made possible by a related computational periodicals research project called Newspaper Navigator.[12] Newspaper Navigator focuses on the visual content embedded within the pages of historic newspapers. This focus complements a larger body of work focused on discoverability and access for periodicals through improved optical character recognition (OCR) and related keyword and faceted search affordances found on digital repositories. Created by Benjamin Charles Germain Lee in 2020, Newspaper Navigator comprises three parts: a machine learning pipeline for visual content recognition, datasets

of extracted visual content from newspapers in Chronicling America, and an online search application of the extracted visual content.

The machine learning pipeline uses data generated by the Library of Congress's Beyond Words crowdsourcing initiative in which volunteers annotated the visual features on subset of newspapers.[13] The Newspaper Navigator trains its model on these annotations, a process that enables the model to recognize visual content in newspapers that have not already been categorized by humans. Newspaper Navigator runs a classification taxonomy based on seven different categories of visual content: photographs, illustrations, maps, comics, editorial cartoons, headlines, and advertisements. The trained machine learning model has been used to identify visual content from the entirety of Chronicling America (16.3 million pages as of April 2020), amounting to approximately one hundred terabytes of data.[14] Additional metadata such as textual captions derived from the newspaper OCR are also included as part of the Newspaper Navigator dataset.[15]

By applying Newspaper Navigator to those newspapers that have been cataloged as ethnic publications, we can begin to draw out patterns of their visual similarity in page layouts.[16] Those layouts, measured by the placement and categories of visual content, capture a newspaper title's broader patterns of format from year to year, and thus, the similarity of different titles' visual layouts in a relational sense.[17] As described above, patterns and ruptures in newspaper formats are important indices of the labor, context, and community-building activities that make newspapers meaningful print objects. By systematizing and annotating long stretches of newspaper history, Newspaper Navigator helps render the mobile and implicit conventions that shape newspaper formats and constitute historical cultures of editorship. By allowing researchers and archivists to identify visually similar newspapers, this method is a new way to understand the internal workings and broader networks of newspapers.

Charting Formats of Reconstruction-Era Newspapers

We began testing our analysis of visual similarity by computing the layout similarity of different titles published during the 1890s and identified as ethnic presses in their catalog records or in supplementary descriptions in Chronicling America.[18] Using the computed similarity metric, we constructed two-dimensional maps that charted the layout similarity of the front pages of different newspaper titles across years, revealing clusters of

titles whose visual layouts were remarkably similar to one another. For example, utilizing this approach, we uncovered three Black newspapers, *The Appeal, The Washington Bee*, and *The Colored American*, that all shared the same layout on their front pages, with ornate titles and lavishly illustrated portraits of leading Black men and women. This cluster of visually and culturally similar newspapers suggested that we could draw connections between newspapers using visual elements not generally recorded in standards of bibliographic data such as MARC (machine readable cataloging).[19] Having found success with our initial experiments using the computational method of inferring connections that were not present within the MARC records for the newspaper titles, we set out to expand this methodology as another approach to a reimagined bibliography.

Next, our research group expanded in scope. Figure 1 depicts a map of all newspaper titles in Chronicling America from 1865 to 1889 classified under the subject heading "ethnic newspapers" (ca. April 2020). This figure is annotated to demonstrate the shifting formats of *La Crónica*, beginning in 1872 and ending in 1889.[20] The constellation illustrates how similarity can be indexed through higher-order format analysis. In particular, each newspaper title's front-page layout is averaged across all digitized titles for a specified year, and we utilize these average layout representations in order to compute visual similarity. This approach enables us not only to compare the visual similarity of different titles but also to chart the evolution of the front-page layout for a specific title over time.

In Figure 1, annual volumes of *La Crónica* appear in different groupings, reflecting an evolving layout. For example, one cluster contains the

A Constellation of the Visual Layouts of Ethnic Presses in Chronicling America, 1865-1889
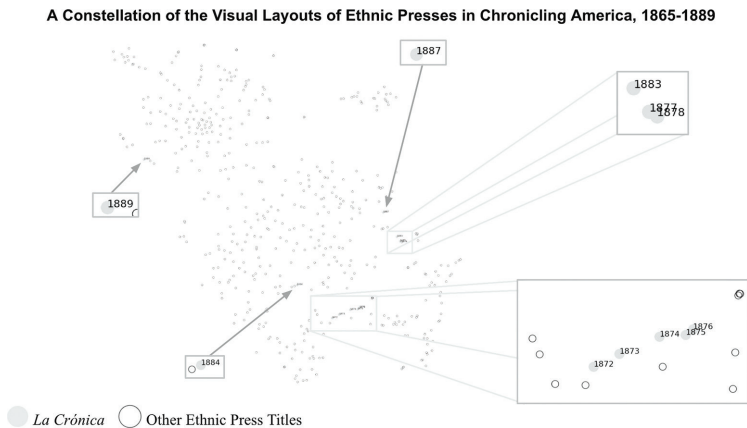
La Crónica   Other Ethnic Press Titles

Figure 1. Ethnic newspapers mapped by visual layout similarity. Clusters consist of newspaper titles with similar front-page layouts over the specified years.

years 1872–76.[21] A second cluster groups together the years 1877, 1878, and 1883 (the years 1879–82 do not appear in the visualization). The years 1884, 1887, and 1889 stand alone, though it should be noted that only two issues of *La Crónica* from 1889 exist in Chronicling America. This map indicates that the format of this newspaper changed decisively a number of times. This finding stands in contrast to most newspapers in the late nineteenth-century United States, which tended to keep a relatively similar front-page layout over time and were usually modeled after widely circulating newspapers.[22] How do we explain *La Crónica*'s seeming eccentricity, as compared to the relative continuity of many of its contemporaries?

La Crónica and the Formats of Multilingual Californian Newspapers

These outputs from the machine-learning model raised deeper questions about *La Crónica*'s relationship to other newspapers in California. After generating these relational clusters, we took a deeper dive into the specific print history of *La Crónica*. Our analysis found that format changes corresponded to shifting editorial motivations. The meaningful relationships between content (both textual and visual) and format were determined by the local purposes and collective values of the paper's editors and printers, as well as its audience: non-Anglo-American, non-English-only participants in an imperialist and white supremacist society. Instead of revealing a static or circumscribed editorial program directed at a single goal, reading the format and content as interdependent uncovers the complexity of the collaborative efforts that shifted across local and hemispheric politics, commercial, and community goals in *La Crónica*.[23] By reading *La Crónica* in relation to other newspapers in California's settler communities, and tracing the changing relationships between civic commentary and economic advancement internal to the paper, our analysis begins to illustrate how a single newspaper developed a collective identity at the national and hemispheric crucible of racialized identity, linguistic community, and exploitative capitalism.[24] Accordingly, this section has two parts. In the first, we describe the historical and social phenomena that reading for format brings into greater focus. Then we apply this reading method to the specific changes in the pages of *La Crónica* as it stabilizes a print identity and a commercial structure in its early years.

Clustering as a reading method encourages comparison with other local or hemispheric communities of print and suggests that newspaper format may be communicating in relation to other communities. By 1873, *La*

Crónica had adopted the look and feel of a political paper. The front page included advertisements for local businesses, poems, and reflective columns that provided philosophical framing for the news reports and civic debates that filled the inside pages of *La Crónica*. Additionally, the front page featured an entire column detailing the business of the newspaper: it listed Editor-Propietario (Teodoli), Redactor en Gefe (E. F. de Celis), agents of the paper from across the state and nation, and advertisement rates in Spanish and English.[25] In 1873, *La Crónica* was visibly participating in an existing format economy that conveyed stability, convention, and the broad scope of the paper's political and social information.

La Crónica initially used its format to downplay hemispheric or cultural differences. The paper presented a mix of local and international news, advertisements, and literature through a layout that would have been familiar to readers in California. These choices around its conventional format align with the paper's initial goal to be the "paper of record" for Californians who read in Spanish. While clusters first invite us to see specific years in relation to each other, the exploratory quality of Newspaper Navigator also encourages greater attention to details of a given year or issue. *La Crónica*'s editorial columns often describe the considerations and contexts that precipitated format changes in the paper. Although major claims on behalf of the paper's ideal audiences were still a few years away, editorial notices in 1873 showed that the primary editor of the newspaper, E. F. Teodoli, routinely vacated the editor's chair to visit other local print offices. Notices in *La Crónica*[26] show that he visited the *Santa Barbara Press*[27] in 1873, where he had worked as a typesetter upon arrival in the United States. By May 3 of that year, Teodoli had also visited the offices of San Francisco's *La Voce del Popolo*, the "Only Italian Newspaper Published in California" (1867–1943).[28]

La Crónica developed its own character and style in relationship to other newspapers (fig. 2). The format for the *Santa Barbara Press*, for example, bears a striking resemblance to *La Crónica*. The former's status as the "Official Paper for Town and County" suggests that this particular layout may have been an attractive standard for *La Crónica* in its aspirations to become a paper of record. On the other hand, the layout and format of *La Voce del Popolo* developed in radically different ways from the *Santa Barbara Press* and *La Crónica*. *La Voce*'s dramatic fonts and striking front page images set it apart from more widely circulating Anglo-American newspapers in the state's largest newspaper hub. Yet *La Voce del Popolo*'s idiosyncratic style placed its layout in relation with other non-English publications, including later iterations of

La Crónica. Across differences and overlaps in format and layout, all these papers shared an important context as early print organs in the emergent American empire of latter nineteenth-century California. *La Crónica* was not alone in managing the difficult task of negotiating the competing forces of race, economic stability, and access to political power. Every town or city paper in California was doing the same.
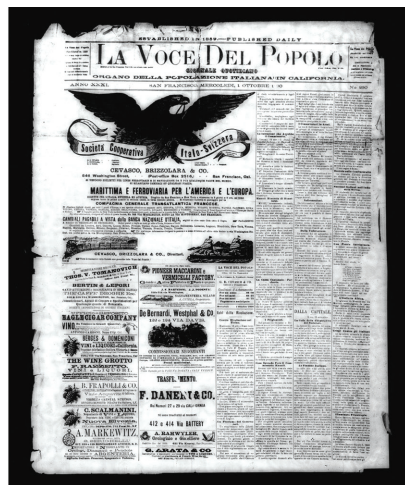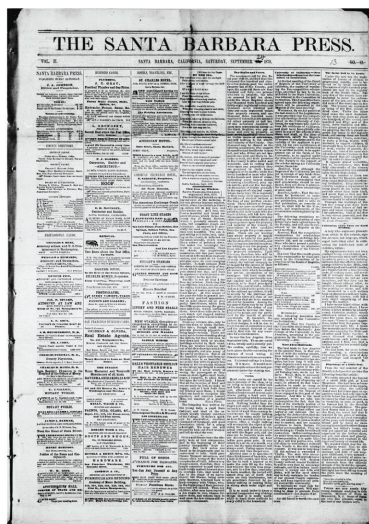

Figure 2. Front pages, clockwise from top left: La Crónica, *April 2, 1873; the* Santa Barbara Press, *September 24, 1873;* La Voce del Popolo, *October 1, 1890; and* La Crónica, *June 23, 1875.*

La Crónica's Mutable Formats, California's Multilingual Politics

In June 1873, *La Crónica* revamped its format as a form of political protest. These changes were part of the paper's campaign to ensure that Californian legal government documents would be translated and published in Spanish. A June 14 article titled "Directas Indirectas,"[29] explained the paper's choice to reproduce "un extracto de la Constitucion del estado de California."[30] In a biting tone, the paper assumed the role of educator and defender of its readers by declaring an intention to "illustrar en cuanto nos sea dable a nuestros lectores acerca de sus derechos"[31] and "para que vean tambien lo mal que son respetados."[32] Underneath this pointed introduction, a single column of type is split oddly and ostentatiously into two smaller columns of compressed type—the left in Spanish and right in English—reproducing articles and statues from the proposed state constitution.[33] There is a self-aware quality to *La Crónica*'s dual columns reprinting the section 21 paragraph stating, "All laws, decrees, regulations, and provisions which from their nature require publication, shall be published in English and Spanish."[34] As a commentary about bilingual representation in the state's founding documents, the columns underscore the discussion of "los derechos de nuestros lectores"[35] by printing statutes that affirm the necessity of Spanish-language options for court defendants and other legal proceedings.

This format serves as a beacon for readers and a political argument about political equality and linguistic access. Not only is *La Crónica* following the letter of the law by publishing relevant regulations in two languages, but, in addition, the unusual layout offers a segmented performance of the simultaneity of Spanish and English expression. Split by a thick black line but connected through inclusion in a single column, this bilingual experiment evokes the clash between emerging linguistic and politicized identities in the loosely defined border regions of the time. Here, *La Crónica*'s format choice is underscored by the linguistic complexity of content, in particular the cynical pun in the headline, and the emphasis on legal rights and civic access in the bilingual reprinted texts. In this moment, *La Crónica* articulates a connection between English monolingualism and colonial legal encroachment, describing its reprinting as a service for readers—those bound by language but independent of national identity or origin—who may have no idea of these rights of multilingual representation and "nunca han soñado en usar de ellos."[36]

A later and exceptional change of format on February 11, 1874, demonstrated the paper's commitment to providing bilingual access to

California's state laws. This issue contains only a single legal document in its entirety: "Ley Orgánica de la Ciudad de Los Angeles."[37] The issue has no ads, notices, or news. *La Crónica* was willing to break expectations about content and format to produce what is in essence an entirely different newspaper.

This radical distinctiveness, paradoxically, maintained the political commitments that had so far framed *La Crónica*'s content and its structure. A small column appended to the conclusion of the translated and reprinted ordinance explains this unprecedented shift in format, from a busy if predictable newspaper to a specific civic document. The column describes that the document is printed "por orden del Concilio."[38] Editors had hoped to provide this important local information as a supplement to the usual content, but lacked sufficient typesetters. The column's author begs the forgiveness of subscribers in this matter but explained that the change was due not just to personnel but also to their continued commitment to the defense of their readers' rights. The newspaper's collective of editors, publishers, and printers had clearly decided that the importance of this editorial mission warranted an alternate format.

In spring of 1875, the paper celebrated three years of print by undertaking a series of format changes for wider commercial appeal. The paper made a major, lasting format change to its title flag, replete with an anniversary column celebrating the themes of politics, commerce, and community in a flashy engraving that now appeared on the front page. Between May 12 and June 23, *La Crónica* introduced two format changes. For its first three years, the title flag used a serif typeface, all capital letters, characterized by delicate lines. On May 19, the title flag shifted slightly, rendering the paper's signature typeface in a bolded version.

A column on the second page detailed the expansion of column space in the service of community improvement and collective identity:

> aumentamos aun una columna más en cada página al tamaño de *La Crónica*; en adelante tendrán nuestros casi mil suscritores un periódico del cual podrán estar justamente orgullosos; un órgano de sus intereses que sabe oír en pró del derecho y la justicia . . . mientras no nos retiren su patrocinio los miembros de la noble raza latina aquí, seguiremos siempre mejorando nuestra publicación. [We increase one more column on each page to the size of *La Crónica*; from now on, our almost one thousand subscribers will have a newspaper of which they can be justly proud, an

organ of their interests that knows how to make itself heard
in favor of law and justice . . . and as long as the members
of the noble Latin race here do not withdraw their spon-
sorship from us, we will always continue to improve our
publication.] ("Nuestro Programa")

Following convention, this unsigned column represents the position
of the paper, presumably from editors' hands. The upgrade to the title
flag and increase in column space illustrate the changing fortunes of the
paper. These changes reveal the paper's efforts to triangulate its linguis-
tic community ("la raza latina"), political commitments ("in favor of law
and justice"), and economic "sponsorship" by subscribers and advertisers.
La Crónica's combination of conventional format and political outreach
framed through linguistic empowerment had paid dividends in the scope
and influence of the paper.

   The major change to the paper's layout in 1875 offers a useful provoca-
tion in the visual terms set by Newspaper Navigator. On June 23, 1875,
La Crónica debuted an elaborate title flag image, replacing what was
already brand-new type with a multifaceted representation of Manifest
Destiny arriving to California (fig. 3).[39] The image endured for as long
as Chronicling America includes this title. This visual rebranding of the
newspaper is accompanied by a change in local status. On June 19, the
designation "Periodico Oficial/City Oficial Paper" begins to appear on the
top of page 2. Newspaper Navigator, however, groups the 1875 issues with
the preceding years because it analyzes seven different visual elements
on the page, in effect deemphasizing what would otherwise be a decisive
format change. This paradox—wherein a sizable visual shift is subsumed
into a larger relational pattern—is characteristic of Newspaper Navigator's
particular reading affordances. In effect, Newspaper Navigator challenges
us to imagine newspapers as fundamentally relational objects even when
our own visual analysis suggests otherwise.

Figure 3. La Crónica*'s new title flag of June 23, 1875.*

Toward Experimental Bibliographies of Format

The unorthodox formats of *La Crónica* show that bibliographic attention to visual similarity can spark new kinds of questions. As we have argued, the relationships between content and format reflect the circumstances and reciprocal goals of editors and their audiences. *La Crónica*'s early years (1873–74) offer format experiments in response to changing local contexts and as a way to assure civic participation. By 1875, the paper was established as the "Periodico Oficial," as the print organ of Southern California's Spanish-language community, and as the property of a publication company called Compañía Publicista de La Crónica. It had, in a word, arrived. *La Crónica* was ensconced in a broader, hemispheric newspaper network shaped by the discussions of racial relations, civic participation, and community formation that characterized the Reconstruction-era United States..

   Organizing and exploring newspaper years by format similarity suggests a few important ideas about format and newspaper history. Newspaper formats change over time for many reasons. We can see those changes more easily and dramatically using Newspaper Navigator. Rather than a tool of analytical certitude, visual similarity clustering serves a fundamentally way-finding or exploratory function to navigate the thousands of distinct pages that might be organized under a single title, offering a medium-specific method for reading digitized newspapers. Newspaper Navigator does not give us the general bibliographic characteristics of newspapers. Instead, it expands on these past efforts, as well as the more recent metadata creation and prosopographical work, to focus our attention on smaller groupings of newspapers by representing vital elements of editorship and their implications that have not been captured in bibliographies.[40]

   Newspaper Navigator reframes the task of classifying and categorizing newspapers around the composition of formats. In the face of relational variety and complexity, we propose editorial organization itself—visible through format—as a fundamental categorical unit through which we can understand a newspaper. The flexible purposes and formats of *La Crónica*, for example, often change but remain tied to "la raza latina," mirroring the flexible roles and visibilities of the paper's editorial and managerial community. If race and ethnicity are socially constructed, editing an ethnic paper entails asking and answering a set of questions about how to manage the social construction of community, in formats, in real time and over the longer term. Editors constantly negotiate their relation to a community first imagined and then addressed. This negotiation often

occurs in the overlay of content and format: a prominent reprint pointedly introduced, an unusual feature established as routine, or a deliberate mixing of visual and textual content.[41] These are practices of editorship that current bibliographical models do not address.

Editorial choices, habits, and innovations shape the structure, conduct, and development of a newspaper. The experimental nature of our machine learning approach provides a strategy for reading traces of invisible labor. One implication of this bibliographic method is a growing awareness that editorship can be explored through attention to visual and textual content over time, perhaps with machine learning or other digital navigation tools foregrounding moments of rupture, pattern, or exchange. Even if not all newspapers include as many self-referential passages as we find in *La Crónica*, this method offers an interpretive process for tracing a newspaper's distinctive layout back to its editorship. In step with ongoing critical and digitization work, computational tools that survey more newspaper content across a wider range of variables can help us better understand the social, professional, and collective histories of editorship writ large.

The experimental bibliography we propose offers a way to think about and frame newspapers through relationships: with other issues in the life of a publication, with the people building and reading its pages, or with other newspapers and other moments. Exploring an unlikely Reconstruction newspaper, written in Spanish and geographically removed from debates about African American civil rights, we find pressing debates about civic relation, legal access and accountability, and economic opportunity, all situated in relation but not in direct address to other versions of these debates shaping the pages of other national, regional, or community newspapers. While no categorization model is perfect or complete, our proposed bibliography serves as a way-finding mechanism to facilitate the kinds of closer exploration we demonstrate with *La Crónica*. Put another way, the bibliography generated by Newspaper Navigator does not entirely surface the collaborative labor, professional practices, and community building that are submerged underneath traditional metadata and search terms. But it does succeed in generating representations of the patterns and relations that help develop a more complete map or, more accurately, many maps of the wide cultural histories shaped by editorship.

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In the Editorship Studies Collective, the authors have collaborated on multiple public events and talks; a technical overview of their machine-learning analysis of newspapers has been published in CEUR Workshop Proceedings 2989 (2021). Their collaborative and single-authored essays, as well as more information about the collective, can be found at https://editorshipstudies.org.

NOTES

1. For a preliminary discussion of definitions and considerations related to serial cataloging, see Molly Hardy and Lindsay Dicuirci, "Critical Cataloging and the Serials Archive: The Digital Making of 'Mill Girls in Nineteenth-Century Print,'" *Archive Journal* **(November 2019)**, https://www.loc.gov/aba/pcc/conser/more-documentation. html. For more detail on CONSER—the standard used by the Library of Congress for serials cataloging—see Library of Congress, Serial Record Division, *CONSER Editing Guide* (Washington, DC: Library of Congress, 2002).

2. In 2022, the Library of Congress posted new scans of more than one thousand African American newspaper issues on Chronicling America. The Digital Library of the Caribbean provides access to a million pages of newspapers from dozens of countries and language varieties. The Recovery Program of Arte Público Press has developed archives of more than 268 Spanish-language newspapers and counting. On the complexities of digitization and cultural historiography, see Gabriela Baeza Ventura, Lorena Gauthereau, and Carolina Villarroel, "Recovering the US Hispanic Literary Heritage: A Case Study on US Latina/o Archives and Digital Humanities," *Preservation, Digital Technology & Culture* 48, no. 1 (2019): 17–27, https://doi.org/10.1515 /pdtc-2018-0031.

3. The classic Anglo-American newspaper bibliography is Frank Luther Mott's *A History of American Magazines*, 5 vols. (Cambridge: Harvard University Press, 1930–68). For broad histories of the "ethnic press," see Sally M. Miller, ed., *The Ethnic Press in the United States: A Historical Analysis and Handbook* (Westport, CT: Greenwood Press, 1987); and Lubomyr R. Wynar, *Encyclopedia Directory of Ethnic Newspapers and Periodicals in the United States* (Littleton, CO: Libraries Unlimited, 1972). See surveys of the Black press in James P. Danky and Maureen E. Hady, eds. *African-American Newspapers and Periodicals: A National Bibliography* (Cambridge, MA: Harvard University Press, 1999); Armistead Scott Pride and Clint C. Wilson, *A History of the Black Press* (Washington, DC: Howard University Press, 1997); and Frankie Hutton, *The Early Black Press in America, 1827 to 1860* (Westport, CT: Greenwood Press, 1993). For a longer list, see: https://jim-casey.com/enap/bibliographies. The foundational history of Spanish-language periodicals in the United States is Nicolás Kanellos with Helvetia Martell, *Hispanic Periodicals in the United States, Origins to 1960 : A Brief History and Comprehensive Bibliography*, Recovering the U.S. Hispanic Literary Heritage Project Publication (Houston, TX: Arte Público Press, 2000).

4. For an example on the tensions between people and coverage in the early Black press, see Jim Casey, "'We Need a Press—a Press of Our Own': The Black Press beyond Abolition," *Civil War History* 68, no. 2 (2022): 117–30. https://doi.org/10.1353/cwh.2022.0010.

5. For a brief but influential overview of bibliographic terms, see Terry Belanger's "Descriptive Bibliography," in *Book Collecting: A Modern Guide* (New York: R. R. Bowker, 1977). We understand Belanger's work in relation to larger conversations about the roles of categorization and classification in knowledge-making. For more, we refer the reader to the relevant literature within critical information studies, including Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, MA: MIT Press, 1999).

6. Jim Casey and Sarah H. Salter, "With, Without, Even Still: Frederick Douglass, L'Union, and Editorship Studies," *American Literature* 94, no. 2 (June 2022): 245–72, https://doi.org/10.1215/00029831-9779106.

7. For a technical description of how the metric of visual layout similarity is computed, see Benjamin Charles Germain Lee, Joshua Ortiz Baco, Sarah H. Salter, and Jim Casey, "Navigating the Mise-en-Page: Interpretive Machine Learning Approaches to the Visual Layouts of Multi-ethnic Periodicals," in *Proceedings of the Conference on Computational Humanities Research 2021* (December 2021): 49–61, https://doi.org/10.48550/arXiv.2109.01732.

8. To that end, this essay's understanding of bibliographic possibility echoes Ryan Cordell's descriptions in "Speculative Bibliography," *Anglia* 138, no. 3 (2020): 519–31, https://doi.org/10.1515/ang-2020-0041. Of especial relevance is Cordell's characterization of speculative bibliography as "an anticipatory processing of bibliographic data in order to maximise possible paths of discovery—not all operations produce meaningful literary-historical insights, but some do—and it is also an imaginative act that asks how the archive might make meanings if differently arranged and juxtaposed" (528).

9. In *La Crónica*, the masthead lists most publication roles and participants. The masthead's location shifts from front page to interior pages over the years. The title flag adorns the top of the front page and includes the title of the paper and, eventually, an elaborate printed image.

10. We use the annual volume as a basic unit of analysis because newspapers in the US historically tended to change their formats on the anniversary of their founding.

11. Dimensionality reduction is a standardized statistical process.

12. Find the original dataset at Newspaper Navigator, Library of Congress Labs, May 30, 2022, https://news-navigator.labs.loc.gov.

13. Meghan Ferriter, "Introducing Beyond Words," *Library of Congress Signal Blog*, September 28, 2017, blogs.loc.gov/thesignal/2017/09/introducing-beyond-words/.

14. As of March 2023, Chronicling America includes over twenty million newspaper pages, representing 3,869 newspapers.

15. Currently, researchers can access the May 2020 dataset through different means: via Amazon AWS S3 requests to compute against the dataset or prepackaged datasets, which make all visual content from specific years downloadable as ZIP files with metadata in JSON or CSV formats. For more details surrounding the technical construction of the dataset, see Benjamin Charles Germain Lee, Jaime Mears, Eileen Jakeway, Meghan Ferriter, Chris Adams, Nathan Yarasavage, et al., "The Newspaper Navigator Dataset: Extracting Headlines and Visual Content from 16 Million Historic Newspaper Pages in Chronicling America," in *Proceedings of the 29th ACM*

International Conference on Information & Knowledge Management, CIKM '20 (New York: Association for Computing Machinery, 2020), 3055–62. See also Benjamin C. G. Lee and Daniel S. Weld, "Newspaper Navigator: Open Faceted Search for 1.5 Million Images," in *Adjunct Proceedings of the 33rd Annual ACM Symposium on User Interface Software and Technology*, UIST '20 Adjunct (New York: Association for Computing Machinery, 2020), 120–22, https://doi.org/10.1145/3379350.3416143. For an overview of the sociotechnical implications of the project, see Benjamin Lee, "Compounded Mediation: A Data Archaeology of the Newspaper Navigator Dataset," *Digital Humanities Quarterly* 15, no. 4 (2021), http://www.digitalhumanities.org/dhq/vol/15/4/000578/000578.html.

16. For current practices on identifying extant and lost ethnic newspapers, see Louisa Trott, "Documenting Lost African-American Newspapers," *The National Endowment for the Humanities Division of Preservation and Access* (blog), April 13, 2022, https://www.neh.gov/blog/documenting-lost-african-american-newspapers.

17. For more information on the technical components of this computational process as well as some supplemental graphics, see Lee et al., "Navigating the Mise-en-Page."

18. These supplementary descriptions, also called title essays, are two to three paragraph summaries of the history of the newspaper prepared by the contributing institutions. The authors may be historians, archivists, or catalogers, and the focus varies from prosopography to biography. For a fuller discussion, see Joshua Ortiz Baco, "Title Essays, Linked Data, and the Ethnic Press in Chronicling America," *National Endowment for the Humanities Division of Preservation and Access* (blog), August 17, 2020, https://www.neh.gov/blog/title-essays-linked-data-and-ethnic-press-chronicling-america.

19. The debates about library metadata and cataloging practices stand in close relation to the bibliographic tensions addressed in this article. We can envision a fuller conversation about the relationships between bibliographic study and library metadata in the years to come. MARC is a standardized system for listing metadata associated with individual bibliographic and library catalog records. For an overview of MARC released by the Library of Congress, see Betty Furrie, *Understanding MARC Bibliographic: Machine-Readable Cataloging* (Network Development and MARC Standards Office, Library of Congress, 2009), https://www.loc.gov/marc/umb.

20. We note that Chronicling America does not include issues of *La Crónica* from 1879 through 1882, as well as 1886 and 1888. Although Chronicling America has added additional issues since 2020—including three issues from 1885. No metadata for these years appear in the Newspaper Navigator dataset.

21. This cluster contains other titles from the ethic press, such as papers from the German-American press.

22. "The Pacific Commercial Advertiser [volume]," Chronicling America, Library of Congress, accessed May 30, 2022, https://chroniclingamerica.loc.gov/lccn/sn85047084/marc/.

23. Our attention to the flexible purposes and associations of *La Crónica* contrasts typologies like Miller, *Ethnic Press*; Robert Ezra Park, *The Immigrant Press and Its Control*, Americanization Studies (St. Clair Shores, MI: Scholarly Press, 1970); Daniel Aaron, "The Hyphenate Writer and American Letters," *Smith Alumnae Quarterly* 55 (1964): 213–17; or studies differentiating among "immigrant," "ethnic," and "exile" newspapers such as Nicolás Kanellos, "*Cronistas* and Satire in Early Twentieth Century Hispanic Newspapers," *MELUS* 23, no. 1 (1998): 3–25, https://doi.org/10.2307/467760.

24. Our understanding of the term "hemispheric" is derived from Susan Gillman and Kirsten Silva Gruesz's use of the term in "Worlding America: The Hemispheric Text-Network," in *A Companion to American Literary Studies*, ed. Caroline F. Levander and Robert S. Levine (West Sussex: Wiley-Blackwell, 2011): 228–47. https://doi.org/10.1002/9781444343809.ch14.

25. The two terms in Spanish roughly translate to editor-owner and chief editor.

26. "Santa Barbara," *La Crónica. [Volume] (Los Angeles, Calif.) 1872–1892*, image 3, April 2, 1873, 3, Chronicling America, Library of Congress, accessed May 30, 2022, https://chroniclingamerica.loc.gov/lccn/sn84025126/1873-04-02/ed-1/seq-3.

27. "Santa Barbara Press. [Volume]," Chronicling America, Library of Congress, accessed May 30, 2022, https://chroniclingamerica.loc.gov/lccn/sn85025118.

28. "La voce del popolo. [Volume]," Chronicling America, Library of Congress, accessed May 30, 2022, https://chroniclingamerica.loc.gov/lccn/sn83045717.

29. We have maintained the nineteenth-century orthography used by the newspaper in our quotes; we include Spanish-language original content in the body of the text with endnoted English translation to foreground the original historical and linguistic contexts of *La Crónica*. For example, in this headline it is hard to convey in English the specifically cynical tone of this title for this content. The headline is using an oxymoron ("in/directas") as a euphemism to make a targeted attack on the racism of monolingual print.

30. "An excerpt from California's state constitution."

31. "Enlighten our readers about their rights as best as we can."

32. "So they can also see how badly they are disrespected."

33. As Rosina A. Lozano finds, by the 1878 constitutional convention of Sacramento, "Nativist sentiments brought forth by many at the convention made certain the loss of the bilingual aspects of the state's government." "Translating California: Official Spanish Usage in California's Constitutional Conventions and State Legislature, 1848–1894," *California Legal History* 6 (2011): 321–56, quotation on 349.

34. This sentence is taken from the English reproduction of the California statutes.

35. "The rights of our readers."

36. "Have never dreamed of using them."

37. "The organic laws of the city of Los Angeles."

38. "By order of the council."

39. See version online at https://chroniclingamerica.loc.gov/lccn/sn84025126/1875-06-23/ed-1/seq-1/.

40. Molly O'Hagan Hardy, "Black Printers on White Cards: Information Architecture in the Data Structures of the Early American Book Trades," *in Debates in the Digital Humanities 2016*, ed. Lauren F. Klein and Matthew K. Gold. (Minneapolis: University of Minnesota Press, 2016): 377-82. https://muse.jhu.edu/pub/23/edited_volume/chapter/1815158

41. Some theoretical discussions of paratext touch on similar matters of mediation, information presentation, and categorization. The classic treatise of the paratext is Gerard Genette, *Paratexts: Thresholds of Interpretation* (Cambridge: Cambridge University Press, 1997); see also Barbara Benedict, "Editorial Fictions: Paratexts, Fragments, and the Novel," in *The Cambridge History of the English Novel*, ed. Robert L. Caserio and Clement Hawes (Cambridge: Cambridge University Press, 2012), 213–29, https://doi.org/10.1017/CHOL9780521194952.015.