



PRESERVING CULTURAL HERITAGE IN TIMES OF WAR

STEPHANIE BONJACK

University of Colorado Boulder

The Russian invasion of Ukraine February 24, 2022, activated a new expression of international community action and crowdsourcing. Saving Ukrainian Cultural Heritage Online (SUCHO) was launched by three digital humanities librarians to rescue data and to back-up digital objects belonging to cultural institutions in Ukraine. Its overwhelming success can serve as a model for librarians and activists responding to future conflicts. This article explores the genesis of SUCHO and other large-impact data rescue projects. It examines the role of affinity and personal connection to this work, positioning the public response and rescue efforts to the war in Ukraine against the 2011 civil war in Syria and the 2023 war between Israel and Gaza. The article advocates for structured data rescue teams within professional organizations as a counter-balance to the extreme role affinity plays in the initiation and success of such projects.

Keywords: SUCHO; data rescue; web archiving; crowdsourcing; cultural heritage; war; performing arts

Introduction

On February 24, 2022, Russian President Vladimir Putin announced a “special military operation” and launched a full-scale invasion of its neighboring country, Ukraine.¹ The news was a global shock, as no provocation had precipitated the attack. Images of smoke plumes in the capital city of Kyiv flooded the media as did news of an almost immediate Ukrainian resistance. Hours after the invasion began, Ukrainian troops stationed on the small outpost of Snake Island

1. Nathan Hodge et al., “Russia Launches Military Attack on Ukraine with Reports of Explosions and Troops Crossing Border,” CNN, February 24, 2022, <https://www.cnn.com/2022/02/23/europe/russia-ukraine-putin-military-operation-donbas-intl-hnk/index.html>.

Contact: Stephanie Bonjack <Stephanie.Bonjack@colorado.edu>

famously told their aggressors, “Russian warship: Go fuck yourself.”² That widely circulated audio clip was the first of many defiant examples that ignited a fire in the hearts and minds of people around the world.

SUCHO Begins

One of those people was Anna Kijas.³ Kijas is the Assistant Director of Digital Scholarship and the Lilly Music Library at Tufts University and has a background in music librarianship and digital humanities. She also has family ties to Eastern Europe and, notably, can read Cyrillic. This combination of qualities, coupled with a desire and ability to act, positioned her in a way that would lead to transformative work. She was aware of the digital warfare that Russia had been waging against Ukraine for many months prior to the invasion. Cultural websites had been hacked or attacked by viruses, and some websites had just gone offline.⁴ The vulnerability of Ukrainian cultural heritage websites and their digital objects were a known issue and concern for Kijas, which led to a natural progression from knowledge to action.

The Music Library Association’s Annual Meeting was slated to take place online March 2–6, 2022.⁵ Kijas saw an opportunity for crowdsourcing, as music library professionals are frequently engaged in large-scale collaborative projects. A few days after the invasion, she created a Google form to gather volunteers for a data rescue session for Ukraine at the Music Library Association meeting on March 5, 2022, and began disseminating it over social media and professional email lists.⁶ She soon had 300 volunteers. Sensing she was tapping into something significant, she began reaching out to her digital humanities contacts to see if anyone else had started a rescue effort, and no one had. At that time, she started communicating and working with her two collaborators: Quinn Dombrowski (Stanford University) and Sebastian Majstorovic (European University Institute, Italy). Dombrowski suggested they get started on data rescue before the scheduled workshop because of the vulnerability of the sites and Majstorovic

2. Ivana Kottasova, “Russian Invasion of Ukraine: A Timeline of Key Events on the 1st Anniversary of the War,” accessed October 2, 2023, <https://www.cnn.com/interactive/2023/02/europe/russia-ukraine-war-timeline/index.html>.

3. Anna Kijas, “Anna E. Kijas,” 2023, <http://annakijas.com/>.

4. Anna Kijas, Interview with Anna Kijas on SUCHO., interview by Stephanie Bonjack, Zoom, July 25, 2023, https://cuboulder.zoom.us/recording/detail?meeting_id=U1TR4roeSkCZBoPYzb3PDw%3D%3D.

5. “2022 Meeting Online – MLA Conferences,” accessed October 4, 2023, <https://conferences.wp.musiclibraryassoc.org/2022-meeting-online/>.

6. Anna Kijas, “[MLA-L] Data Rescue Session for Ukraine – March 5, 2022,” February 27, 2022, <https://list.indiana.edu/sympa/arc/mla-l/2022-02/msg00149.html>.

had tools to suggest. On March 1, 2022, they launched Saving Ukrainian Cultural Heritage Online (SUCHO).⁷

SUCHO's goals in the beginning were narrowly defined and straightforward: to back-up websites and digital objects. As Russia fired missiles into Ukraine, the resultant explosions inflicted damage on its infrastructure. This infrastructure included things like the power grid as well as the physical servers used to store the digital objects and websites of cultural institutions. In many instances, if those servers were destroyed, the digital content hosted there would be lost. Additionally, websites hosted outside of Ukraine were in danger because the financial infrastructure that ensured site-hosting costs were paid was fully arrested. SUCHO began by tapping over 1,500 volunteers from more than 38 countries who had signed up to help after the initial call. They identified over 5,400 Ukrainian heritage websites, amassed on a "gigantische spreadsheet" they would continue to add to over time.⁸ Work began immediately to archive every site on the list.

Web Archiving

Web archiving has a long history. The very first website is credited to CERN, the European Organization for Nuclear Research. That site was published in 1991 and was an informative page about the World Wide Web.⁹ The fact that the project was conceived by scientists for the purpose of sharing information across universities and institutions proved to be significant, as they chose to make the source code freely available in 1993. From that decision, the open web came into being. A few years later in 1996, the Internet Archive launched, and members and partners began archiving the Internet, which is accessible through the Wayback Machine.¹⁰

SUCHO relies on Webrecorder, a suite of Open Access tools that allow users to "capture interactive websites and replay them at a later time as accurately as possible."¹¹ These tools existed before SUCHO came together, but there has been subsequent development of the software because of SUCHO's involvement. Crowdsourcing projects can lead to the improvement of the tools used to facilitate their work. The storage of the archived files is distributed, and this is where much administrative work has happened. For example, Kijas and her

7. SUCHO Team, "About SUCHO | SUCHO," accessed October 4, 2023, <https://www.sucho.org/about>.

8. Quinn Dombrowski et al., "March – December 2022 End of Year Updates" (SUCHO, December 2022), https://www.sucho.org/assets/Mar-Dec-2022_End_of_Year_Updates.pdf.

9. "The Birth of the Web | CERN," CERN, 2023, <https://home.web.cern.ch/science/computing/birth-web>.

10. "Internet Archive: About IA," accessed December 2, 2023, <https://archive.org/about/>.

11. "Webrecorder," accessed December 2, 2023, <https://webrecorder.net/>.

partners have garnered in-kind digital storage from multiple partners, including from Wasabi and Amazon Web Services. They have also fundraised to pay for digital storage outside of Ukraine. Within Ukraine, many of the museums have chosen to upload their digitized content to museum-digital, an open-source platform for museums to publish their content online. Museum-digital maintains its own set of distributed servers, and any back-up or mirrored files are maintained locally.

Other Notable Examples

SUCHO is one of many crowdsourced data rescue projects. Another well-known example is the work conducted by the Environmental Data and Governance Initiative (EDGI). This group came into being with the election of Donald Trump as United States President in 2016. Environmental scientists were concerned about the data maintained by the Environmental Protection Agency, as Trump had appointed a climate denier to lead the department. Within a short amount of time, a group of academics formed to archive federal websites and datasets from environmental agencies.¹² They also did an impressive job at publicizing their work, leading to headlines in news outlets in the United States and abroad.¹³ Another important project related to the Trump administration is Torn Apart/Separados, a visualization project that maps Immigration and Customs Enforcement (ICE) detention facilities. It followed in the wake of Donald Trump's 2018 "zero tolerance" immigration policy and sought to document immigrant incarceration as well as the financial connections between ICE and elected leaders.¹⁴

Additional mapping examples can be found in those facilitated by Humanitarian OpenStreetMap Team (HOT). They enable groups to digitally map areas that are vulnerable to disaster and where detailed digital maps may not exist.¹⁵ A case study on how to crowdsource a mapping project using the HOT Tasking Manager as well as other quickly assembled collective projects can be found in the Nimble Tents Toolkit. This site documents collective action carried out by members of university libraries and labs as a response to Hurricane Maria, which devastated Puerto Rico in 2017. The group was able to complete an open-source

12. Lindsey Dillon et al., "Environmental Data Justice and the Trump Administration: Reflections from the Environmental Data and Governance Initiative," *Environmental Justice* 10, no. 6 (December 2017): 186–92, <https://doi.org/10.1089/env.2017.0020>.

13. "About EDGI," Environmental Data and Governance Initiative, accessed December 3, 2023, <https://envirodatagov.org/about/>.

14. Manan Ahmed et al., "Torn Apart/Separados," Text, June 25, 2018, <https://xpmethod.columbia.edu/torn-apart/volume/1/>.

15. "What We Do," Humanitarian OpenStreetMap Team, February 6, 2018, <https://www.hotosm.org/what-we-do.html>.

map of Puerto Rico within a month, aiding rescue and relief efforts and providing better data for the future.¹⁶

Lightning in a Bottle

Many factors came together quickly to make SUCHO happen. There was Kijas' personal connection to the region and her professional expertise and connections. Social media platforms like X (formerly Twitter) enabled the sharing of timely information and allowed messages to be amplified easily. There was also a sweeping sentiment of affinity across social media and news outlets. We see the success of these social media campaigns and the overwhelming positive affiliation citizens around the world had with Ukraine in the scale of fundraising accomplished in the early days of the war. An early example was Concert for Ukraine, which was a televised event on the British network ITV. Included in the lineup were Ed Sheeran, Billie Eilish and Finneas O'Connell as well as the Ukrainian singer Jamala, who had fled Ukraine with her children. The event raised over £13 million.¹⁷ Shortly thereafter, the organization Global Citizen organized an international summit and fundraising event called Stand Up for Ukraine on April 9, 2022. Music superstars from the members of U2 to Elton John used their platforms and voices to contribute to the event, using the hashtag #StandUpForUkraine.¹⁸ The event yielded over \$10 billion in pledges, grants, and loans for Ukrainian causes, and that hashtag is still in regular use as of this writing.¹⁹ The band Pearl Jam, in addition to participating in Stand Up for Ukraine, played a concert in Kraków, Poland July 14, 2022, with a focus on Ukraine. The band promoted support organizations, including SUCHO, and their lead singer, Eddie Vedder, waved the Ukrainian flag during their performance.²⁰

Such outpouring of support from performing arts organizations and communities was widespread in the months following the Russian invasion. The classical music community was no exception. Here are some notable examples.

16. Alex Gil, "The Nimble Tents Toolkit," accessed July 26, 2023, <http://nimbletents.github.io/>.

17. "Concert for Ukraine Raises Millions for Humanitarian Effort," ITV News, March 30, 2022, <https://www.itv.com/news/2022-03-29/concert-for-ukraine-raises-millions-for-humanitarian-effort>.

18. Global Poverty Project, "\$10.1 Billion (€9.1 Billion) Pledged in New Grants and Loans as Part of the Stand Up for Ukraine Event to Support Those Who Have Had to Flee Their Homes in Ukraine," Global Citizen, April 9, 2022, <https://www.globalcitizen.org/en/content/stand-up-for-ukraine-impact-report/>.

19. "#StandUpForUkraine – Search/X," X (formerly Twitter), November 25, 2024, <https://x.com/celinedion/status/1512466877183938565>.

20. Pearl Jam, "Dziekuje, Polsko; Thank You, Poland," July 15, 2022, <https://pearljam.com/news/dziekuje-polsko>.

The Kennedy Center, located in Washington, D.C., hosted a benefit concert for Ukraine with violinist Joshua Bell and the New Era Orchestra of Kyiv.²¹ In New York City, Carnegie Hall ran a benefit concert hosted by Richard Gere with the National Anthem of Ukraine opening the program.²² The Metropolitan Opera and the Polish National Opera formed the Ukrainian Freedom Orchestra, which was comprised of recent refugees and toured parts of the United States and Europe.²³ In Estonia, thousands of singers from choirs across the country came together at the Tallinn Song Festival Grounds to sing “Oi u luzi chervona kalyna” (“Oh the Red Viburnum in the Meadow”), a patriotic Ukrainian song.²⁴ And in 2023, Latvian musicians held their second benefit called “For the Freedom of Ukraine!” which concluded with a candle route from the Ukrainian Embassy to the Russian Embassy in Riga.²⁵

On local levels, librarians like me used media at hand to raise awareness of the conflict with local communities and constituents. I assembled a slideshow to run at the entrance to the Howard B. Waltz Music Library at the University of Colorado Boulder, highlighting the UNESCO Heritage Sites in Ukraine as well as musicians, composers, and conductors from the region. I also assembled a research guide on cultural heritage and news sites in Ukraine and delivered an international presentation on the topic.²⁶

SUCHO as a Model?

A question that came to concern me as the conflict in Ukraine wore on and the overall affinity and support for Ukraine’s defense of its nation continued was: *why?* Why this nation and seemingly no other? For example, when President Bashar al-Assad’s government began a war against its own citizens in Syria in

21. “Benefit Concert For Ukraine | Kennedy Center,” The Kennedy Center, October 18, 2022, <https://www.kennedy-center.org/whats-on/explore-by-genre/classical-music/2022-2023/benefit-concert-ukraine/>.

22. “Concert for Ukraine | May 23, 2022 at 8 PM,” Carnegie Hall, May 23, 2022, <https://www.carnegiehall.org/Calendar/2022/05/23/Concert-for-Ukraine-o800PM>.

23. “Ukrainian Freedom Orchestra Formed to Tour Europe and U.S. This Summer in Artistic Defense of Their Country,” Metropolitan Opera, April 25, 2022, https://www.metopera.org/about/press-releases/ukrainian-freedom-orchestra-formed-to-tour-europe-and-u.s.-this-summer-in-artistic-defense-of-their-country/?INSTITUTION_LOGOUT=true.

24. “Estonia Sings for Ukraine,” Estonia Sings for Ukraine, accessed December 4, 2023, <https://www.estoniasingsforukraine.org>.

25. “Charity Concert ‘For the Freedom of Ukraine’ | Rīgas Valstspilsētas Pašvaldība,” February 22, 2023, <https://www.riga.lv/en/article/charity-concert-freedom-ukraine>.

26. Stephanie Bonjack, “LibGuides for Ukraine” (International Association of Music Libraries, Archives, and Documentation Centres, Virtual, July 28, 2022), <https://www.iaml.info/congresses/2022-prague>.

2011, the Western world did not immediately call itself to act as it later did with Ukraine.²⁷ UNESCO documents that Syria is home to six world heritage sites, including ancient cities and the Site of Palmyra as well as five intangible heritage practices like the crafting and playing of the Oud, a traditional musical instrument.²⁸ When I brought up Syria with Kijas, she saw it as a very different example, as the tools for data rescue did not exist at that time and digital objects held by Syrian museums and cultural heritage sites would have been few.²⁹ She also pointed to physical barriers—the equipment used to digitize content now is smaller and lighter and far easier to get into a country at war than such equipment would have been in 2011.

Syria may have been a test case for the importance of an international organized response to preserving cultural heritage. In 2014, UNESCO became involved in emergency on-the-ground response efforts to save museum objects from looting and trafficking in Syria.³⁰ In 2017, ALIPH, the International Alliance for the Protection of Heritage in Conflict Areas came together with a manifesto that includes the “guiding spirit” of “Action, Action, Action.”³¹ ALIPH has funded ten different projects in Syria since 2019, which includes both physical and digital documentation and restoration projects.

I asked Kijas about SUCHO as a model, as history would indicate more conflicts and invasions will happen in the future. She and her collaborators had honed and refined a process for data rescue and quick crowdsourcing that yielded tremendous results. Subsequent projects, like delivering scanning equipment to Ukrainian institution employees has also demonstrated a meaningful role in preventing the loss of cultural heritage artifacts.³² Kijas pointed to the importance of a personal connection to the country and people in conflict. I wondered: if she had not been personally connected to Ukraine, would SUCHO have happened? Kijas thought yes, someone or many people over time would have stepped up, but the pace and scale might have been very different. She pointed to there always being some people on the ground during conflicts trying to do the work, like 3D modeling of sites and capturing images of monuments, but these are often local, narrowly focused efforts.³³

27. Center for Preventive Action, “Conflict in Syria,” Global Conflict Tracker, October 17, 2023, <https://cfr.org/global-conflict-tracker/conflict/conflict-syria>.

28. “Syrian Arab Republic | UNESCO,” accessed December 2, 2023, <https://www.unesco.org/en/countries/sy>.

29. Kijas, Interview with Anna Kijas on SUCHO.

30. “Syria | UNESCO,” May 11, 2023, <https://www.unesco.org/en/node/66281>.

31. “Our Ambition | Aliph Foundation – Protecting Heritage to Build Peace,” Aliph Foundation, accessed December 3, 2023, <https://www.aliph-foundation.org>.

32. “Equipment for Ukraine | SUCHO,” accessed December 2, 2023, <https://www.sucho.org/equipment>.

33. Kijas, Interview with Anna Kijas on SUCHO.

Organizational Structures for the Future

The precariousness of individual action is why it is incumbent upon librarians, information professionals, and knowledge workers to create frameworks for action that do not rely upon affinity and personal connections for us to act quickly and scale up when the next conflict or invasion occurs. There is also a role for our professional organizations to play here. Rather than initiatives to preserve cultural heritage starting with individuals, there should be established working groups in our organizations that focus exclusively on data rescue projects.

This would make sense as a special interest group in the Alliance of Digital Humanities Organizations, which is best positioned to connect digital humanities workers around the world with these types of initiatives.³⁴ Performing arts organizations such as the Music Library Association, the Theatre Library Association, and the International Association of Music Libraries, Archives, and Documentation Centres should all incorporate data rescue into their existing committee and section structures as well. These groups could serve as participants and could provide training on web archiving to expand the base of skilled workers able to meaningfully participate in data rescue.

Finally, there is room for library and performing arts organizations to identify gaps in existing data rescue efforts. Much of the rescue work has focused on museums, and rightfully so in places with ancient artifacts. But in the performing arts, we also have archives and collections of value that, if lost, would have a devastating effect. Collections like orchestra libraries, which contain annotations from important performers and conductors in the history of the orchestra and that are used to inform current and future practice are important to prioritize.³⁵ In theatre and dance, documents around all facets of production design, from set, lighting, sound, costume and makeup design contribute value to historical research and to future productions. Members of performing arts organizations are well suited to identify performing arts companies and organizations for this type of data rescue.

Conclusion

The war in Ukraine continues. At the time of writing, the United States has given over \$175 billion in aid to Ukraine, with many European nations giving even bigger shares of their gross domestic product (GDP) to Ukraine than

34. "Special Interest Groups – Alliance of Digital Humanities Organizations," accessed December 3, 2023, <https://adho.org/sigs/>.

35. For an example of a robust orchestral digital archive see: "New York Philharmonic | Digital Archives," accessed December 3, 2023, <https://archives.nyphil.org/>.

the US.³⁶ As 2024 comes to a close, there is no sign that peace negotiations are anywhere in the near future, as fighting is ongoing and European Union members continue to commit future funding to support Ukraine.³⁷

SUCHO continues to support cultural heritage sites by responding to their needs as they evolve. In 2023, SUCHO began sending power stations to libraries, archives, museums and other cultural heritage institutions in Ukraine. These generators enable employees to continue their work and to keep dehumidifiers running to preserve their cultural objects. This builds upon similar work conducted by the Smithsonian Cultural Rescue Initiative, which has been involved in safeguarding measures for museum collections in Ukraine.³⁸ The long-term goal of SUCHO is to return all data and archived content to its original owners in Ukraine once the conflict is over. In 2023, SUCHO was one of five laureates of the Grand Prix European Heritage Awards, which amplified their work, raised their international status, and furthered their mission to protect the cultural heritage of Ukraine. It is hard to imagine a better example or a better template for how to respond to future conflicts. Dombrowski reports that some of SUCHO's volunteers are working on an open access handbook for web archiving, which will make it easier for others to do similar work.³⁹ Hopefully, we will never need to use it, but if we do, SUCHO's example will help to lead the way.

Coda: Israel and Gaza

While I was working on this article, a new conflict began, one that would garner immediate international attention and serve as proof of concept for some of the ideas I have explored here. On October 7, 2023, the military organization Hamas launched an attack on Israel from Gaza. Over 1,200 Israelis were killed and over 200 were taken hostage. Israel immediately declared war on Hamas and launched aerial and ground offensives in Gaza.⁴⁰ While Hamas continued to launch rockets into Israel, the Iron Dome system largely neutralized them and

36. "How Much U.S. Aid Is Going to Ukraine? | Council on Foreign Relations," accessed November 25, 2024, <https://www.cfr.org/article/how-much-us-aid-going-ukraine>.

37. European Union, "EU Support for Ukraine," accessed November 25, 2024, https://european-union.europa.eu/priorities-and-actions/eu-support-ukraine_en.

38. "How Global Networks Are Working with the People of Ukraine to Protect Their Cultural Heritage," accessed July 26, 2023, <https://global.si.edu/success-stories/how-global-networks-are-working-people-ukraine-protect-their-cultural-heritage>.

39. Quinn Dombrowski, "Saving Ukrainian Cultural Heritage Online (SUCHO): Digital Relief Work Relationships More Than Technology," *International Leads: A Publication of the International Relations Round Table of the American Library Association* 36, no. 2 (June 2022): 3.

40. "Timeline of the 2023 Israel–Hamas War," in *Wikipedia*, December 3, 2023, https://en.wikipedia.org/w/index.php?title=Timeline_of_the_2023_Israel%E2%80%93Hamas_war&oldid=1188187656.

the threat to Israeli cultural heritage in this conflict was minimal.⁴¹ Additionally, Israel controls the power grid for both Israel and Palestine and began subjecting Gaza to blackouts.⁴² The bigger threat was to the cultural heritage of Palestine, specifically in Gaza. Palestine is home to hundreds of heritage sites, many of them ancient, so I expected to see a SUCHO-like effort emerge within a few days of the conflict and a call for volunteers to flood my email lists and social media feeds.

It didn't happen.

There was no generalized affinity in this conflict, no rallying behind soldiers on a lone island outpost, staring down a looming war ship. Instead, students saw job offers and leadership positions rescinded for holding anything short of a pro-Israel stance.⁴³ There were protests on college and university campuses across the United States, doxxing of faculty members and instructors for neutral or sympathetic views on Palestine, and attempts to limit the free speech of students by shutting down chapters of National Students for Justice in Palestine.⁴⁴

Ten days after the conflict began, I reached out to digital humanities librarians within my network to discover if any data rescue was happening in Palestine. I learned that an effort had been assembled, but it was operating fully under the radar and was not public facing.⁴⁵ They were not accepting volunteers who did not speak or read Arabic, and they were keeping their group intentionally small. Their fears of harassment and negative consequences for undertaking this work were real. At some point in the future, I hope the broader community learns of what they were able to accomplish, and what they were able to save. So far, we have only learned about what has been lost.⁴⁶

41. Manuela López Restrepo, "Here's How Israel's 'Iron Dome' Stops Rockets — and Why Ukraine Doesn't Have It," *NPR*, October 12, 2023, <https://www.npr.org/2023/10/12/1205255594/israel-gaza-hamas-war-iron-dome-defense-palestinians>.

42. Liam Stack and Bilal Shbair, "Gazans Are Living Through a Yearlong Blackout," *The New York Times*, November 9, 2024, sec. World, <https://www.nytimes.com/2024/11/09/world/middleeast/gaza-electricity.html>.

43. Prem Thakker, "Pro-Palestine NYU Law Student Speaks Out After Job Offer Was Rescinded," *The Intercept*, October 17, 2023, <https://theintercept.com/2023/10/16/pro-palestine-students-campus-gaza-war/>.

44. "The Israel-Hamas War Is Escalating. Colleges Are Caught in the Middle.," *The Chronicle of Higher Education*, November 8, 2023, <https://www.chronicle.com/article/israel-gaza-and-the-impossible-predicament-of-college-leaders>.

45. Alexander Gil Fuentes, "Palestine Data Rescue," October 20, 2023.

46. Ahmed Al-Barsh, "Report on the Impact of the Recent War in 2023 on the Cultural Heritage in Gaza Strip – Palestine" (Heritage for Peace, November 7, 2023), <https://www.heritageforpeace.org/>.

About the Author

Stephanie Bonjack, Associate Professor, is the Music, Theatre & Dance librarian at the University of Colorado Boulder. She is active in the Music Library Association, the International Association of Music Libraries, Archives, and Documentation Centres, and serves on the Board of the Theatre Library Association.

References

- Ahmed, Manan, Maira E. Álvarez, Sylvia A. Fernández, Alex Gil, Merisa Martinez, Moacir P. de Sá Pereira, Linda Rodriguez, and Roopika Risam. "Torn Apart/Separados." Text, June 25, 2018. <https://xpmethod.columbia.edu/torn-apart/volume/1/>.
- Al-Barsh, Ahmed. "Report on the Impact of the Recent War in 2023 on the Cultural Heritage in Gaza Strip – Palestine." Heritage for Peace, November 7, 2023. <https://www.heritageforpeace.org/>.
- Aliph Foundation. "Our Ambition | Aliph Foundation – Protecting Heritage to Build Peace." Accessed December 3, 2023. <https://www.aliph-foundation.org>.
- Alliance of Digital Humanities Organizations. "Special Interest Groups – Alliance of Digital Humanities Organizations." Accessed December 3, 2023. <https://adho.org/sigs/>.
- Bonjack, Stephanie. "LibGuides for Ukraine." Presented at the International Association of Music Libraries, Archives, and Documentation Centres, Virtual, July 28, 2022. <https://www.iaml.info/congresses/2022-prague>.
- Carnegie Hall. "Concert for Ukraine | May 23, 2022 at 8 PM," May 23, 2022. <https://www.carnegiehall.org/Calendar/2022/05/23/Concert-for-Ukraine-0800PM>.
- Center for Preventive Action. "Conflict in Syria." Global Conflict Tracker, October 17, 2023. <https://cfr.org/global-conflict-tracker/conflict/conflict-syria>.
- CERN. "The Birth of the Web | CERN," 2023. <https://home.web.cern.ch/science/computing/birth-web>.
- Council on Foreign Relations. "How Much U.S. Aid Is Going to Ukraine? | Council on Foreign Relations." Accessed November 25, 2024. <https://www.cfr.org/article/how-much-us-aid-going-ukraine>.
- Dillon, Lindsey, Dawn Walker, Nicholas Shapiro, Vivian Underhill, Megan Martenyi, Sara Wylie, Rebecca Lave, Michelle Murphy, and Phil Brown. "Environmental Data Justice and the Trump Administration: Reflections from the Environmental Data and Governance Initiative." *Environmental Justice* 10, no. 6 (December 2017): 186–92. <https://doi.org/10.1089/env.2017.0020>.
- Dombrowski, Quinn. "Saving Ukrainian Cultural Heritage Online (SUCHO): Digital Relief Work Relationships More Than Technology." *International Leads: A Publication of the International Relations Round Table of the American Library Association* 36, no. 2 (June 2022): 3.
- Dombrowski, Quinn, Anna Kijas, Sebastian Majstorovic, Kiley Joliceour, Erica Peaslee, Andreas Segerberg, Anna Rakityanskaya, Alex Wingate, Ekaterina Malygina, and Susanna Ånäs. "March – December 2022 End of Year Updates." SUCHO, December 2022. https://www.sucho.org/assets/Mar-Dec-2022_End_of_Year_Updates.pdf.

- Environmental Data and Governance Initiative. "About EDGI." Accessed December 3, 2023. <https://envirodatagov.org/about/>.
- Estonia Sings for Ukraine. "Estonia Sings for Ukraine." Accessed December 4, 2023. <https://www.estoniasingsforukraine.org>.
- European Union. "EU Support for Ukraine." Accessed November 25, 2024. https://european-union.europa.eu/priorities-and-actions/eu-support-ukraine_en.
- Gil, Alex. "The Nimble Tents Toolkit." Accessed July 26, 2023. <http://nimbletents.github.io/>.
- Gil Fuentes, Alexander. "Palestine Data Rescue," October 20, 2023.
- Global Poverty Project. "\$10.1 Billion (€9.1 Billion) Pledged in New Grants and Loans as Part of the Stand Up for Ukraine Event to Support Those Who Have Had to Flee Their Homes in Ukraine." *Global Citizen*, April 9, 2022. <https://www.globalcitizen.org/en/content/stand-up-for-ukraine-impact-report/>.
- Hodge, Nathan, Tim Lister, Ivana Kottasová, and Helen Regan. "Russia Launches Military Attack on Ukraine with Reports of Explosions and Troops Crossing Border." *CNN*, February 24, 2022. <https://www.cnn.com/2022/02/23/europe/russia-ukraine-putin-military-operation-donbas-intl-hnk/index.html>.
- Humanitarian OpenStreetMap Team. "What We Do," February 6, 2018. <https://www.hotosm.org/what-we-do.html>.
- Internet Archive. "Internet Archive: About IA." Accessed December 2, 2023. <https://archive.org/about/>.
- ITV News. "Concert for Ukraine Raises Millions for Humanitarian Effort," March 30, 2022. <https://www.itv.com/news/2022-03-29/concert-for-ukraine-raises-millions-for-humanitarian-effort>.
- Kijas, Anna. "Anna E. Kijas," 2023. <http://annakijas.com/>.
- Kijas, Anna. Interview with Anna Kijas on SUCHO. Interview by Stephanie Bonjack. Zoom, July 25, 2023. https://cuboulder.zoom.us/recording/detail?meeting_id=U1TR4roeSkCZBoPYzb3PDw%3D%3D.
- Kijas, Anna. "[MLA-L] Data Rescue Session for Ukraine – March 5, 2022," February 27, 2022. <https://list.indiana.edu/sympa/arc/mla-l/2022-02/msg00149.html>.
- Kottasova, Ivana. "Russian Invasion of Ukraine: A Timeline of Key Events on the 1st Anniversary of the War." Accessed October 2, 2023. <https://www.cnn.com/interactive/2023/02/europe/russia-ukraine-war-timeline/index.html>.
- Metropolitan Opera. "Ukrainian Freedom Orchestra Formed to Tour Europe and U.S. This Summer in Artistic Defense of Their Country," April 25, 2022. https://www.metopera.org/about/press-releases/ukrainian-freedom-orchestra-formed-to-tour-europe-and-u.s.-this-summer-in-artistic-defense-of-their-country/?INSTITUTION_LOGOUT=true.
- Music Library Association. "2022 Meeting Online – MLA Conferences." Accessed October 4, 2023. <https://conferences.wp.musiclibraryassoc.org/2022-meeting-online/>.
- New York Philharmonic. "New York Philharmonic | Digital Archives." Accessed December 3, 2023. <https://archives.nyphil.org/>.
- Pearl Jam. "Dziękuję, Polsko; Thank You, Poland," July 15, 2022. <https://pearljam.com/news/dziekuj-polsko>.
- Restrepo, Manuela López. "Here's How Israel's 'Iron Dome' Stops Rockets — and Why Ukraine Doesn't Have It." *NPR*, October 12, 2023. <https://www.npr.org/2023/10/12/1205255594/israel-gaza-hamas-war-iron-dome-defense-palestinians>.

- Rīga City Municipality. "Charity Concert 'For the Freedom of Ukraine' | Rīgas Valstspilsētas Pašvaldība," February 22, 2023. <https://www.riga.lv/en/article/charity-concert-freedom-ukraine>.
- Smithsonian Global. "How Global Networks Are Working with the People of Ukraine to Protect Their Cultural Heritage." Accessed July 26, 2023. <https://global.si.edu/success-stories/how-global-networks-are-working-people-ukraine-protect-their-cultural-heritage>.
- Stack, Liam, and Bilal Shbair. "Gazans Are Living Through a Yearlong Blackout." *The New York Times*, November 9, 2024, sec. World. <https://www.nytimes.com/2024/11/09/world/middleeast/gaza-electricity.html>.
- SUCHO Team. "About SUCHO | SUCHO." Accessed October 4, 2023. <https://www.sucho.org/about>.
- SUCHO Team. "Equipment for Ukraine | SUCHO." Accessed December 2, 2023. <https://www.sucho.org/equipment>.
- Thakker, Prem. "Pro-Palestine NYU Law Student Speaks Out After Job Offer Was Rescinded." *The Intercept*, October 17, 2023. <https://theintercept.com/2023/10/16/pro-palestine-students-campus-gaza-war/>.
- The Chronicle of Higher Education. "The Israel-Hamas War Is Escalating. Colleges Are Caught in the Middle." November 8, 2023. <https://www.chronicle.com/article/israel-gaza-and-the-impossible-predicament-of-college-leaders>.
- The Kennedy Center. "Benefit Concert For Ukraine | Kennedy Center." October 18, 2022. <https://www.kennedy-center.org/whats-on/explore-by-genre/classical-music/2022-2023/benefit-concert-ukraine/>.
- UNESCO. "Syria | UNESCO." May 11, 2023. <https://www.unesco.org/en/node/66281>.
- UNESCO. "Syrian Arab Republic | UNESCO." Accessed December 2, 2023. <https://www.unesco.org/en/countries/sy>.
- "Webrecorder." Accessed December 2, 2023. <https://webrecorder.net/>.
- Wikimedia Foundation. "Timeline of the 2023 Israel–Hamas War." *Wikipedia*, December 3, 2023. https://en.wikipedia.org/w/index.php?title=Timeline_of_the_2023_Israel%E2%80%93Hamas_war&oldid=1188187656.
- X (formerly Twitter). "#StandUpForUkraine – Search/X," November 25, 2024. <https://x.com/celinedion/status/1512466877183938565>.