The State of Digital Humanities in the Arab World

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By the end of the first decade of the twenty-first century, we had clearly moved from the world of new media to a world of more media. When we reached the inspirational uprisings of 2011, the ubiquity of computers, digital media software, and computer networks led to an exponential rise in the number of cultural producers worldwide. No longer simply a matter of the rise of new media production in new global contexts, these social media platforms served as the database architectures for the accumulation of data on a scale heretofore unknown. This over-proliferation of data challenges one's research methodology—the impossibility of knowing or representing such a mass of information requires new ways of investigating and interpreting, which adds another layer of challenges. A review of humanities scholarship in Arabic or Middle East studies reveals a dearth of engagement with digital content, whether as primary sources or in critically questioning the tools and analytics provided. Many humanities scholars are constrained by existing tools for analyzing the ontology and syntax of digital production and social media networks in multiple languages. Knowledge production in the digital realm tests the boundaries between the cultural, the archival, and the technical. It can embody all of these dimensions at once and thus reconfigure our understanding of each.

To this extent, the digital humanities and sciences require new methodological and conceptual tools with which to attend to computation and empirical knowledge. And, yet, digital humanities is as broad in scope as the humanities and the social sciences, with unique concerns in each discipline, from politics to art to premodern history. We find premodern historians digitizing manuscripts through various optical character recognition (OCR) software, while archivists build database architectures and interfaces. Artists intervene critically with the digital through creative modes of production, and literary scholars reimagine future worlds and narratives of Arab culture and history. This paper provides a broad survey of digital scholarly projects across disciplines, contemporary digital arts, and Arab-futures literature to illustrate the state of digital humanities in the Arab world.

One of the earliest digital artworks from the region is Walid Ra'ad's The Atlas Group, a fictitious online archive intervening in how we understand the archive. The conceptual art piece is a website where the documenting and archiving processes dominate the screen, and the archived data is fictitious.[1] Akram Zaatari's Arab Image Foundation project, also situated in the Middle East, archives twentieth-century photographs and portraits of everyday Arab families. In photography, film, video, and installation, Zaatari has built a complex body of work that collects, examines, and recontextualizes documents—from found audiotapes to family photographs to YouTube videos—that testify to the cultural and political conditions in Lebanon (and its regional cultural context), investigating the ways these artifacts straddle or conflate notions of history and memory. According to the Tate Modern, the Arab Image Foundation (AIF) .[2]

An Islamic historian, Maxim Romanov, is part of a multi-institutional digital humanities project to develop software that builds a machine-actionable corpus of premodern texts in Arabic to encourage computational analysis of the Arabic literary tradition.[3] His research presents findings

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[1] In his essay, Niru Ratnam discusses Walid Raad's piece in analysis of a major art exhibit, *Documenta 11* in 2002. See Niru Ratnam "Art and globalization" in *Themes of Contemporary Art*. Edited by Perry, Gillian and Paul Wood . Yale University Press: New Haven, 2004, 247. His name is listed in Rhizome's digest of "Highlights from the New Media Art Field," not in journals or public discourse concerning Middle East.

[2] https://www.tate.org.uk/art/art-terms/a/arab-image-foundation-aif

[3] See Open Islamicate Texts Intiative (OpenITI): https://alraqmiyyat.github.io/OpenITI/

from an initiative that is digitizing thousands of Islamicate texts of the premodern period. Among these findings are patterns of re-use of phrases and sentences from text to text, which illustrate the flow of ideas in Muslim societies and may help to reconstruct lost texts.

In 2009, a digital archive was built to collect, analyze, and visualize social media content in English and Arabic. R-Shief would become a repository of multiple social movements from Occupy Wall Street to the 2011 Arab uprisings.[4] In its first years, R-Shief rapidly grew into a complex media system enabling me to collect and analyze data from social networking sites and to innovate machine-learning software. Using its immense data repository, R-Shief developed one of the earliest detection algorithms that recognized language from the series of characters in a tweet.

Though social media is often considered co-authored by the public, much research on the Arab public has focused on political histories,[5] public opinion through traditional polling,[6] or conducted ethnographic investigations.[7] In this regard, they have tended to undercut the mechanisms for verification and authority within the domain of the digital. Digital knowledge production is not like pop culture or traditional public texts, i.e. newspapers or legal documents. Rather, it offers a redefinition of "the public" as societies systematically engage more in the Internet, open-source transactions, and mobile devices, for example, worthy of rigorous study.

Arab Futures

Rooted in an Arabic literary tradition, Tarek El-Ariss formulated a theory of an Arab digital consciousness through the practice of fadh—a public shaming and scandalizing—which he describes through mediated hacking and whistleblowing in his book, Leaks, Hacks, and Scandals: Arab Culture in the Digital Age. Moving beyond the codes of modern Arabic literature, culture, and politics, El-Ariss theorizes the leaking subject as the subject in the digital age procedural acts of incivility—hacking (tahkir, iktiraq), leaking (tasrib), revealing (ifsha), proliferation (tafashshi) and exposure and scene-making (fadh). He articulates how these glitchy acts are socially conscripted as uncivil, punishable, shameful, and he reframes them as writing and political practices, as well as conceptual tools to understand Arab culture in the digital age.[8]

Visitors watched their image gradually form on the wall using letters from the Arabic alphabet as they entered the back of Cairo's Viennoise Hotel. Bodies entering the gallery space triggered a ceiling-mounted projector to cast Arabic glyphs onto the walls. Letters changed as people moved, and eventually, a group of visitors could form words or sentences from all the glyph play. Just as Ahmed Basiony had envisioned, visitors controlled the image formations in the room through their moving embodied locality. Basiony's artistic process was algorithmic, using open-source programming that integrated the external hardware circuitry platform Arduino board. Language

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[4] See R-shief.org

[5] For example, M. Lynch (2012) *The Arab Uprising: The Unfinished Revolutions of the Middle East* (New York: Public Affairs).

[6] The annual *Arab Public Opinion Poll* conducted by Zogby International and Brookings Institute (2003–11).

[7] For example, J. Anderson & D. Eickelman (2003) *New Media and the Muslim World: The Emergent Public Sphere* (Bloomington: Indiana University Press).

[8] Tarek El-Ariss, *Leaks, Hacks, and Scandals: Arab Culture in the Digital Age,* Translation/Transnation (Princeton: Princeton University Press, 2019).

lies at the heart of this configuration process. Like an impulse to archive the Internet in Arabic, Basiony highlighted the Arabic alphabet's incompatibility with ASCII (American Standard Code for Information Interchange) programming code through his experimentation with open-source software in his Cairo Documenta installation, "ASCII Doesn't Speak Arabic." The interactive installation was exhibited at the 2010 Cairo Documenta. It was his last show. Ahmed Basiony was killed on January 28, 2011, while actively protesting and filming the clashes around Tahrir Square. He had been confirmed to play at Barcelona's digital music festival SONIC in July 2011. The Egyptian Ministry of Culture had announced he would represent Egypt at the next Venice Biennale. However, his ASCII installation and performance, "Thirty Days Running in Place," along with footage of street protests he filmed from January 25 to 27, 2011, were Basiony's final works. Mainstream media named him the "martyred artist."

His tragic death affirmed Basiony's artistic body of work and, by extension, the credibility of new media art practice in Egypt. The grassroots activism of Arab protesters of 2011, as viewed in the U.S., disrupted the firm grip of stereotypes and upended Hollywood narratives about Arabs as uncivilized.[9]

Media or digital art, conversely, has endured its history, which is arguably defined by predominantly American and European lenses. And representations of contemporary Arab art outside the Arab world commonly fetishized the "Arabesque." Basiony's death, nevertheless, instigated potent validation of new media art practice in Egyptian art history. In 2011, the pavilion at the Venice Biennale was posthumously dedicated to and composed of fragments of repurposed and unfinished material from Basiony's video and performance compositions.

Perhaps it is precisely because Ahmed Basiony and other Arab artists using digital media and algorithmic processes, were outside of the frame of reference that they have been able to experiment in and produce breathtaking glitch, experimental art.

Art critic Laura Marks, for example, has curated several compelling collections of Arab experimental artists of the moving image under the frame "Arab Glitch," in addition to her published volumes that curate many more Arab artists. In 2014, she curated four Arab Glitch films at the University of Rochester. Gheith al-Amine's T.S.T.L. is a stop-motion video that dissociates humor and wit, unveiling its obsolescence, through the use of a canvas, one black acrylic tube, one white acrylic tube, a human voice, a melodica, a pocket trumpet, lots of gibberish, and a self-referential phrase.[10] Rania Stephan went to Cairo street stalls to find pirated VHS tapes of the late Egyptian actress Souad Hosni's films, then edited together scenes from the secondhand footage and remixed the soundtracks into an elegiac feature-length film. Its three acts, bookended by a prologue and epilogue, trace Hosni's emergence, maturity, and untimely death, possibly by suicide. Throughout, Stephan blurs the line between Hosni's complex private life and her public personification of an idealized modern Arab woman.[11] Marks also screened Ahmed El Shaer's

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[9] A famous example of this is Jack Shaheen's 2001 publication, *Reel Bad Arabs: How Hollywood Vilifies a People*, a product of twenty years of scholarship. His analysis showed that of approximately one thousand films with Arab or Muslim characters made between 1896 and 2000, only twelve portrayed them positively.

[10] Gheith al-Amine, *T.S.T.L.*, video (Lebanon, 2011, 5:00).

[11] Rania Stephan, *The Three Disappearances of Souad Hosni*, documentary film (Lebanon, 2011, 70:00).

Home,[12] Raed Yassin's The New Film,[13] and Ahmed Nagy's The Holy Zero,[14] alongside The Three Disappearances of Souad Hosni at the University of Rochester's Arab Glitch film series.

In February 2020, just before the world shut down in a global pandemic, three exhibitions curated by Shiva Balaghi opened across three galleries at the American University in Cairo's Tahrir Cultural Center that focused on the concept of glitch and its evidentiary aesthetics in artistic transformations—group exhibition Glitch: Art & Technology,[15] Bahia Shehab's solo exhibition, Corner of a Dream"[16] and VJ Um Amel's first solo exhibition in Cairo, Beit Um Amel. Insisting that we are all cyborgs, in Beit Um Amel ("House of Um Amel"), the cyborg created in the gallery space her home with pixelated self-portraits of a cyborg, glitched interactive media, digital archives of social media activity in the aftermath of the Arab Spring, and "R-Shief Portal" (2020)—a virtual archive that visitors can both experience and manipulate on wall-mounted iPads.[17] Shehab's exhibition was a digital video installation that weaves together the themes of exile, nomadism, and belonging against the background of Palestinian poet Mahmoud Darwish's writings while staging the documentaries in an immersive room lined with white sheets.

Balaghi opened her curatorial outline with a nod to German artist Hito Steyerl, emphasizing the organic, vulnerable arrangement of our networked lives: "In today's increasingly fluid media space, images and sounds morph across different bodies and carriers, acquiring more and more glitches and bruises along the way."[18] The curator said the idea of the exhibition's theme and its title, Glitch, came to her when she first saw the glitch print on metal, Birds, in which the pixel-sorted image shows birds flying over a refugee boat in Libya.[19] Among the installations in the group exhibition, Haytham Nawar's vector-based graphic installation Aish Baladi—Arabic for Egyptian local bread—uses a very analog reference, a political and cultural icon of the Bread Riots in Egypt.[20] The group exhibition also featured the prominent futurist aesthetic of Basim Magdy, Petra Cortright, and Shady El Noshokaty. The walls in Magdy's exhibition corner were painted in colors of blue, purple, and pink, creating a flashy out-of-space experience. Petra Cortright's digital painting IRA javaplateset_ LANdesk marche floriste (2018), a reframed still-life, references intermedial practices of found footage that are appropriated and altered to create more multidimensional objects on a physical medium. Ahmed Basiony's teacher and mentor, El Noshokaty, extended glitch into organic matter in his exhibition, Colony–Rainbow Map, a multimedia installation that narrates the operations of a living ecology through a large microcosmic glass cabinet. The artworks in the exhibition covered a wide range of artistic practices and media,

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[12] Ahmed El Shaer, Home (Egypt, 2006, 6:00). See http://www.ahmedelshaer.com/?page_id=30.

[13] Raed Yassin, The New Film (Lebanon/Egypt, 2009, 9:00). See https://raedyassin.info/the-new-film.

[14] Ahmed Nagy, The Holy Zero (Egypt, 2010, 30:00). See http://ahmedmahmoudnagy.blogspot.com/p/ultimate-computing-holly-zero.html.

[15] Shiva Balaghi, curator, Glitch: Art and Technology, group exhibition, American University in Cairo, exhibition booklet, February 2020.

[16] Bahia Shehab, "At the Corner of a Dream," solo exhibition, Tahrir Cultural Center, American University in Cairo, Cairo, Egypt, February 12–March 11, 2020, created 2019. See https://www.bahiashehab.com/solo-shows/project-one-ccf44.

[17] VJ Um Amel, Beit Um Amel, solo exhibition, Tahrir Cultural Center, American University in Cairo, Cairo, Egypt, February 12–March 11, 2020.

[18] Shiva Balaghi, curator, Glitch: Art and Technology, group exhibition at the American University in Cairo, February 2020.

[19] VJ Um Amel's Birds (2015) is the cover art for Arabic Glitch.

[20] Haytham Nawar's Aish Baladi (2015).

thereby configuring a complex understanding of what "glitch" reveals in the here and now of a perennial geopolitical hotspot—the Middle East. In January 2021, Iranian independent art institution Platform 101 hosted Glitch Art: Pixel Language, the first video group exhibition in Tehran focused on glitch art curated by Mohammad Ali Famori and Sadegh Majlesi.[21] Glitch Art: Pixel Language featured twenty-seven artists from Iran, Singapore, Azerbaijan, Italy, Brazil, and the United States, whose works examine the value of pixels and their identity as the smallest components of the digital image, forcing the viewers to look at the pixel language from a different perspective. Their mission, according to their website, "revolves around the economy of art by developing an equal opportunity between the artist and the audience. towards making art accessible to everyone, this institution supports young artists by featuring their work among private art centers and cultural institutions around the globe."[22] Over ten years since the 2010 DIY art exhibition Cairo Documenta inspired a generation of digital artists, the Tehran-based art collective Platform 101 brings back the collaborative, grassroots Middle Eastern art scene. While they are building local communities of Iranian artists, Platform 101 has a global vision.

It is also imperative to expand the frame to include often-forgotten corners of the Arab world where compelling examples of such work exist. These include North African techno artists in the Maghreb region, Arab diasporic activist artists, Iraqi, Palestinian, Yemeni, etc. This chapter provides an account of dissent in the Arab world of 2011 as a dynamic (digital) subtext of critical dissonant practices, embodied in a glitch, as forms and strategies of material transformation. Digital platforms and infrastructures, artistic collectives, contemporary media art, and (trans-)cultural networks have shaped new ways of being, as well as epistemologies of connectivity. This essay examines the aesthetic of technical errata of layered historicized forms and data of algorithmic art.

A YouTube series from Jordan, The Box – الصندوق, consisted of short films that address the relationship between technology, the body, and resistance within and beyond culture and society.[23] Kuwaiti musician Tamara Qaddoumi released her EP Soft Glitch in 2021, featuring four songs whose names suggest subject matter about dislocation, mobility, and operating across various planes. In an interview with Bazaar magazine, Qaddoumi reflects on working during the pandemic. She describes her experience producing the music videos for Soft Glitch with choreographer Jana Younes as returning to her theater roots. She said, "I studied physical theater in drama school, and drama in university, and felt like I lost touch with that physicality, the sense of movement psychology. When people listen to my music, I want to ignite every sense. So I thought it was a great moment to relearn how to communicate and speak with my body. The video really is about the ways in which seeing can be touching—which I think resonates particularly this year, with so much imposed distance and lack of intimacy."[24] In 2021, she also gave a talk in Kuwait titled "Jasady" (My Body).

[21] Platform 101, website, accessed January 18, 2022, https://platform-101.com/.

[22] Platform 101, website, accessed January 18, 2022, https://platform-101.com/.
[23] *The Box*—الصندوق, YouTube channel, accessed January 18, 2022, https://www.youtube.com/channel/UCCkjFHWwDBfemghfAV85vGA.
[24] Yasmine El Charif, "We See You, Tamara," *Bazaar*, January 1, 2021, https://bazaar.town/tamara-qaddoumi-see-you/.

Ahmed Basiony reminded us that ASCII does not speak Arabic; Ahmed El Shaer and Bahia Shehab remixed Islamic art spanning fourteen hundred years into multiple instantiations of contemporary resistance graffiti. All the while, Arab techies like Manal Hassan and Ahmad Gharbeia relentlessly built new open-source software enabling Arabic script to operate on interfaces, online forms, and with social media nomenclature like the hashtag. And we were not the only ones concerned with the abduction of language through the transformation into the twenty-first-century information age. In addition to the video game Reissue, Ahmed El Shaer produced the video Recycle (the Code)[25] as a commentary on how algorithmic code, as a language, continues to recycle political and social ideas. In New York, on a fellowship at Eyebeam to explore code as a medium of self-expression, artist and computer scientist Ramsey Nasser built Qalb/, a functional programming language allowing a programmer to write programs completely قلب[26] – in Arabic. He built the software to find out where things bring break. For example, قلب is hosted on GitHub, where hyphens replace the projects' names in Arabic glyphs. Every text editor failed at editing text coherently in different ways, requiring Nasser to patch together a process with several text editors, open-source technologies, and help from Arab solidarity. Developed during his residency at the New York City art institute Eyebeam, Nasser's project is engineering performance art. It is not speculative. It highlights the cultural biases endemic to computer science and challenges the assumptions we make about programming. Why is it so hard to program in non-English languages? Language lies at the heart of this configuration process. We have to continue to experiment in order to build and imagine. The Internet is not a fantasy space. It is a future space. From Second Life to the metaverse, it has been an actual space where real people have transactions and interactions with one another.

Arab Software Localization

The use of creative commons licensing and praxis of free and open-source software (FOSS) production using social networking programs such as Drupal, MediaWiki, Ning, and WordPress emphasized a commitment to a new model of media production. It embraced free and open access and grew from contributions from a forum of developers worldwide. Since 2006, developers were still building applications to enable Arabic characters on a keyboard. Several open-source projects to develop software for Arabic on Drupal, Yamli, Kalimaat, GNOME, and other platforms enabled Arabic-language content to grow dramatically in the following years. There are activist platforms such as Katib and as I mentioned earlier, Take Back the Tech (to end violence against women), based out of Lebanon. In addition, a great deal of work had gone into Arabic-language analyses, from e-Space's Arabic Morphological Analyser to Taha Zerrouki's Arabic verb conjugator project, Qutrub.[27] Qutrub is housed in a collaborative wiki, Arabeyes.

One of the largest forums on the Internet throughout the aughts was a community for Egyptian women called Fatakat. Originally established as a forum among three sisters, mainly sharing recipes, in the summer of 1997, it quickly grew into the most prominent hub of Internet communication for Middle Eastern and North African women, emerging alongside forums for

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[25] Ahmed Al-Shaer, *Recycle (the Code)*, 2010, last accessed September 20, 2020,
https://www.youtube.com/watch?v=wFMySOVGJME.

[26] Ramsey Nasser, قلب. 2013, last accessed December 15, 2020, https://nas.sr/%D9%82%D9%84%D8%A8/.

[27] Qutrub software app, accessed December 15, 2020, Qutrub.arabeyes.org

gamers and techies before the advent of social networking sites.[28] As early adopters of the Internet in Arabic, Egyptian women developed platforms like SuperMama to cater to Middle Eastern mothers and families, as well as feminist technologies such as HarassMap, an advocacy, prevention, and response tool that uses crowdsourced data to map incidents of sexual harassment in Egypt.

Another early open-source project was an Egyptian Internet Technology (IT) company that provided its services using Drupal open-source software. Though the company did not survive the economic crisis of 2008, Open Craft was a pioneering open-source company that brought together like-minded people, including Manal Hassan and Zeinab Samir, who co-founded the popular blog SuperMama. These techies held a shared vision of technologies used for self-organization and community building. This generation of programmers and designers was very active during the very early boom of social networking technologies, participating in bulletin board communities, mailing lists, Usenet groups, web forums, and wikis like the ones used in the Linux installfests.[29]

One of the leading programmers known for his efforts in making wikis available in Arabic is Ahmad Gharbeia. He trained media and technology practitioners on open culture and knowledge. In a 2020 article, Gharbeia wrote, "Wikis are thus cognitive tools of the cyber age with a variety of software applications which, while varying in the details of their design and method of function, have basic components that allow for collaborative content creation. Beyond providing collaborative methods of content editing to their users, the majority of wikis are also experiments in self-organisation, wherein editors are set to participate in putting forward the rules governing their cooperative community, from the boundaries of that community, its degree of openness and rules of engagement, down to the rules of editing previously authored content and the nature of content to be authored, accumulated and preserved."[30] Gharbeia was not the only programmer who demonstrated a commitment to knowledge production through both theory and practice. He argued that participants in wikis and blogs were all conceptually and practically committed. In reflection, Gharbeia described how revolutionary discussions of religious and ethnic diversity (such as sectarian strife between Muslims and Christians in Egypt and the rights of religious minorities such as the Baha'is), as well as sexual and political orientations, were very present in the collective conversations that took place in the blogosphere at its peak.[31]

While wikis and content management systems like Drupal, WordPress, and Joomla directly impacted the birth of the blogosphere, these new web technologies also impacted traditional presses in Egypt. Independent journalists from Al Masry al-Youm and other online platforms leaked stories about state human rights violations using open-source web-publishing tools.[32] Several writers contributed to the website reporting on "Torture in Egypt" and other independent

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[28] Ahmad Al-Shagra, "Fatakat: Family Project Becomes #1 Hub for MENA Women," The Next Web, September 3, 2010, https://thenextweb.com/me/2010/09/03/fatakat-family-project-becomes-1-hub-for-mena-women.

[29] See https://web.archive.org/web/20050205102930/http://www.eglug.org/node/848.

[30] Ahmad Gharbeia, "Wikis as Catalysts for Activism: The Case of Arabic Wiki Gender," Arab Reform Initiative, January 23, 2020, https://www.arab-reform.net/publication/wikis-as-catalysts-for-activism-the-case-of-arabic-wiki-gender/.

[31] Pew Research Center, "Egypt Takes Center Stage on Blogs," February 10, 2011, https://www.pewresearch.org/journalism/2011/02/10/egypt-takes-center-stage-blogs/.

[32] Torture in Egypt website, accessed January 17, 2012, https://web.archive.org/web/20120117205632/http://tortureinegypt.net/.

news outlets. Journalist Lina Attalah managed the editorial desk of the daily newspaper Al Masry al-Youm, a print press covering Egypt's revolutionary period until it closed its doors in 2013. Atallah went on to found Mada Masr, a Cairo-based media outlet that seeks to secure "a house for a dislocated practice of journalism that did not survive in mainstream organizations and their associated political and economic conditions."[33] Graced with a uniquely poetic pen and dedication to her communities, Atallah envisioned a broad Arab media network that reached into the arts, scholarship, and beyond national boundaries. After the 2011 revolution, she was involved in several attempts to rethink media practice outside of state and corporate control. This resulted in her focusing on local media groups that were also outward-looking. One of the defining characteristics of these international media collectives is that they were searching for bottom-up and horizontal pan-Arab organization methods rather than the top-down, authoritarian model of pan-Arab media networking. As the editors of Mada Masr describe on their About page, "In order to launch, we had to wear several additional hats besides journalism. Some of us became fundraisers. Others summoned their business development knowledge to try building a sustainable model. The artistic ones took care of creating our physical space and our virtual look on the web. The semi-geeks studied what technology could promise to journalism before building and developing our website. And we all took on menial tasks, doing what needed to be done to keep the organization going.[34]" Time recognized Lina Atallah as a New Generation Leader, calling her the "Muckraker of the Arab World," in 2018 and again in Time's 100 Most Influential People of 2020.[35] As Cairo-based journalist Jared Malsin explained, "under Attalah's leadership, Mada Masr has earned a reputation for being fearless, running blockbuster corruption investigations, revelations of regime purges and coverage of the war against ISIS in the Sinai Peninsula, which the authorities have attempted to shield from public view."[36] The depth of Atallah's impact on contemporary culture and politics in Egypt and its Middle Eastern context went broadly from journalism to technology, activism, the arts, and scholarship as she immersed herself and collaborated in these arenas.

Appropriately, at a gathering of feminist programmers and designers who were, perhaps in a cloud of unknowing at first, all involved in a synchronous effort to Arabize the Internet. Co-organized by Lina Attallah and Manal Hassan, among others, the Arab Techies Women's Workshop took place in Jounieh, Lebanon, in 2010 with around thirty participants. It was a dynamic event where growing relationships were strengthened, new ones were forged, and common relations were unearthed. The first gathering of the Arab Techies took place in Cairo at the end of 2008, and subsequent events included an "Arabization" Code Sprint in Cairo in 2009—in other regions, these two- or three-day workshops are called hackathons. These multi-day events were designed with intervention in mind. The participants tackled subjects on citizen media, open-source software, digital activism, mobile telephony, aggregators, and social networks. At its conclusion, evaluation forms revealed significant criticism of the lack of women techies at the meeting. The same criticism emerged at the following Arab Techies event, which was focused on solving Arabic-language support issues and NLP problems as well as how to improve search normalization and

[33] *Mada Masr* website, "About Us," accessed December 31, 2020, https://www.madamasr.com/en/about-us/
[34] *Mada Masr* website, "About Us."
[35] Maria Ressa, "Lina Attalah," *Time*, September 22, 2020, https://time.com/collection/100-most-influential-people-2020/5888226/lina-attalah/.
[36] Jared Malsin, "Muckraker of the Arab World," *Time*, October 17, 2017, https://web.archive.org/web/20191129000820/https://time.com/collection-post/4969555/lina-attalah-next-generation-leaders/.

text indexing. Only two of the sixteen software developers were women.[37] Thus merged the idea of organizing an Arab Techies gathering for women only. As part of the Arab Techies initiative, the chief aim of the women's gathering was to introduce/send women techies into communities desiring social change and needing technical support.

Out of this eclectic set grew a cyberfeminist praxis.

Cairo Documenta 2010

The Ministry of Culture hosted the 12th Cairo Biennale in 2010–11 despite a scandal involving a Van Gogh stolen from the Cairo Museum earlier in 2010. Mohsen Shaalan, deputy culture minister and director of the official Cairo Biennale, had been arrested and then fired as a scapegoat in the months leading up to the biennial. The show went on without a director. Inspired by Documenta's legacy reaching back to 1955, twenty-five young Egyptian artists organized an uncurated exhibition in Cairo's Viennoise Hotel, across town from the Cairo Biennale. They proposed an alternative model for display free from the conditional frameworks imposed by art institutions and their curators. It would be another nine years before Cairo officially hosts its thirteenth international biennale.

Conceived under the theme of "independence," the DIY exhibition across town, Cairo Documenta 2010, had little support for exhibition space. Rich for analysis, we are reminded of the common interest in occupying sovereign, public space in the arts, activism, and the digital world. Documenta 2010 provided no simple answers to the questions it raised. The participating artists, Mohamed Allam, Mahmoud Hallwy, and Ahmed Basiony, had also grown more experimental in their art practice, producing elaborate digital media installations. Basiony participated in several workshops in the "Egypt Lab" through the Medrar Contemporary Art Foundation in Egypt. By 2010, Basiony was among the very few Egyptians working in digital interactive media despite minimal formal academic training and a lack of the vast amount of necessary software and hardware knowledge. His story speaks to the resourcefulness and strength of the Egyptian informal networks and subalterns.

Cairo Documenta reflected the increasing decentralization of Cairo's independent art scene—from Townhouse Gallery, Contemporary Image Collective, Espace Karim Francis, and Mashrabeya transforming part of Cairo's downtown into an arts hub—to newcomers who contributed to the exhibition, including Artellewa, Zawya, Darb 1718, and Medrar for Contemporary Art. Medrar, an artistic initiative cofounded by Mohamed Allam and Mohamed Abdelkarim, grew into a sustainable institution that initiated Cairo's first Video Festival, which has been running annually since 2005. At a site for digital media art production, the Medrar artists produced large-scale audiovisual performances and media archival representations, often employing glitch aesthetics by altering digital compression to reveal the materiality of the support underlying the digital image.

Allam was one of the leading video artists leading up to the 2011 uprisings. In one of his best-known projects, My Nineties, Allam collected more than four thousand VHS tapes from around Cairo's urban corners. Out of this archive of physical tapes, he created a glitch art project

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[37] Natural Language Processing (NLP) is a field of stu\y combining linguistics, computer science, information engineering, and artificial intelligence to understand the communication and interaction between computer languages and human (natural) languages.

addressing Egypt's mediascape during the 1990s. In her ethnographic study of cultural and art production in 1990s Cairo, Jessica Winegar makes the case that artists belonging to the young generation manifested an artistic subjectivity tied to neoliberal sensibilities.[38] This approach enabled us to see how, in Egypt, the state and globalizing art markets have summoned the work and the subjective consciousness of artists, critics, curators, and collectors who had persuaded largely secular ideologies of taste, authenticity, personhood, expression, and national belonging. The figures in Egypt's art world are not passive subjects in being "hailed" this way but are, in fact, alert and discerning agents who debate their pasts and their prospects critically.

Similar to Joy Garnett's Bee Kingdom[39] and R-Shief, Allam generated several creative productions from the archive, including an exhibition of video installations screened raw and glitched using analog techniques from the 1990s, as well as a live audiovisual performance. It also includes a documentary by Emad Maher featuring newspaper and magazine articles and scholarly texts discussing the role of television in that decade.

Most of the artwork at Cairo Documenta 2010 adopted an activist approach, directly commenting on socioeconomic conditions, cultural values, and political events. In "Without a Cover Project," Ibrahim Saad projected two short documentaries from Iraq and Egypt in a restroom. In the first, he showed a U.S. soldier covering the head of Saddam Hussein's statue at Firdous Square with an American flag during the 2003 U.S. invasion. In the second, Egyptian football fans covered the face of novelist Naguib Mahfouz's statue in Cairo with the Egyptian flag after the national team lost to Algeria. News headlines about poverty, illiteracy, and economic crisis in Egypt under President Hosni Mubarak's regime appeared on the screens' bottom. According to the artist's diacritics, Mahmoud Hallwy's piece, "To Be a Hero," comprised three poster-size self-portraits in which Hallwy dressed as an Egyptian army officer against an incongruous, computer-generated backdrop that projected images of geysers, a white picket fence, a willow tree, and pink flamingos.

In a challenge to traditional art practices, artist Marwan Fayed presented "Possibilities of Post Curation" on the opening night of Cairo Documenta 2010. Mohamed Allam's sound installation piece, "You will enjoy a pop song if you listen to it more than five times in more than one place," was displayed in the same room. Allam has long critiqued the traditionalist framing devices associated with "high" art such that the layout worked perfectly. Ahmed El Shaer's software app, "Reissue," also critiqued the English language's domination through video gameplay. As an interactive game, "Reissue" audience members were asked to destroy "the word concept in English," which appears at the right side of a computer screen, by aiming a missile at it. The tension created by the three works in one space reflected the diversity of views among the participating artists concerning the mediation of artwork and the legacies that shaped an "authentically" postcolonial "Egyptian" art.

Cairo Documenta 2010 provided a convergence of emerging digital art practices in the region. Perhaps its most significant achievement was in offering an art exhibition experience outside the world of art jurisdiction and in curating experimentation itself. With its strident tone, the exhibition statement is arguably a manifesto proceeding through a series of negotiations; that is, this is not an

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[38] Jessica Winegar, *Creative Reckonings: The Politics of Art and Culture in Contemporary Egypt* (Stanford, CA: Stanford University Press, 2006).

[39] Joy Garnett, The Bee Kingdom, website last accessed December 15, 2020, https://thebeekingdom.art/.

institution, a permanent space, or a curatorial initiative. The claim of artists' autonomy from authority was performed and embodied rather than rendered through a detailed argument or critical narrative.

Inspired by emergent artist and activist communities like the DIY artists of Cairo Documenta 2010, in Kassel, Germany, the documenta 13 curator, Carolyn Christov-Bakargiev, decided to include events outside the city of Kassel in advance of the 2012 exhibition, as well as a concurrent event at a different location. Christov-Bakargie, the second female curator in over fifty years of documenta, thematized documenta 13 through four cities and their states of being: "onstage" in Kassel, "under siege" in Kabul, "hope and revolt" in Cairo and Alexandria, and "retreat" in Banff, Alberta. The seminar's original theme had been "in a state of hope": one of four conditions informing documenta 13's curatorial approach. In a colorful review in Bidoun magazine, Claire Davies explains that due to the growing momentum of counterrevolution in Egypt, the organizers decided to substitute "sleeping and dreaming" as the seminar's theme a week prior. Hope was now the domain of the Muslim Brotherhood—which, having been outlawed for almost six decades, was pushing forward a self-styled nahda, or renaissance platform.[40]

While Cairo was inundated with a burgeoning new media art scene in 2010, in Europe, Egyptian artist Bahia Shehab participated in an exhibition commemorating one hundred years of Islamic art in Europe. The curator made it a condition that she use Arabic script in the piece. And the artist had only one word to say: "no." She titled her exhibition using the common expression of negation, "No, and a Thousand Times, No." She then searched for a thousand "no's" produced across time and space of different regimes of Muslim rule. Organized chronologically, she published her finds in a book with the name, patron, medium, and date. The book sat on a small shelf next to the installation, which stood three by seven meters in Munich, Germany, from September 2010 through January 2011.[41]

Like many Egyptians who had dreamed or dared to dissent, Shehab experienced a hopeful vision of dignity for all people in Egypt during those eighteen days between January 25 and February 12, 2011. Divisions of power among the military, Islamists, and revolutionaries quickly glitched that hopeful vision. After several military assaults on civilians and the Maspero incident in October 2011, the mood definitely had changed. Shehab took the stencils of the "no's" she had collected, and like ammunition, she started to graffiti them all over Cairo, like ammunition. She added messages after each "no." She wrote: "No to military rule," "No to a new pharaoh," "No to violence," "No to blinding heroes," "No to barrier walls," and "No to the stripping of people." Each statement is made in response to a real-life incident, such as the reference to stripping people, based on the "blue bra" incident of December 17, 2011, when video emerged of security forces at a protest in Tahrir Square beating and dragging a young woman until her clothes no longer covered her. The blue bra reflects the larger grouping of Egyptians, enraged by this public act of violence. For Shehab, this female protester does not stand alone—she is placed next to other demands, other people, and other societal problems that were highlighted through a litany of Nos stenciled on walls throughout Cairo.

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[40] Clare Davies, Tom Francis, and Sohrab Mohebbi, "Documenta 13," *Bidoun*, no. 28: interviews, Spring 2013, last accessed December 15, 2020. https://www.bidoun.org/issues/28-interviews#documenta-13.
[41] As described by the artist in conversation with the author. See also Bahia Shehab, website, bahiashehab.com.

Beyond the scope of art galleries and festivals in Cairo, Tehran, and Kassel, many international glitch artists have emerged on Facebook groups, GitHub forums, and other net art collectives. Artists have used the glitch as a technique to explore the inextricability of politics and aesthetics. International coders, activists, and makers, in turn, extended arts-based methodology into hacktivism, science, and social science research.