House Histories and Radioactive Landscapes: Global Lessons from the "Backyard"

NORA WENDL

University of New Mexico

AARON CAYER

University of New Mexico

Keywords: Storytelling, Global History, Undergraduate Research

This article considers two different pedagogical methods of architectural research and storytelling through design that were taught, adapted, and assessed over the past three years within two different undergraduate courses at the University of New Mexico-two courses traditionally taught with little coordination: architecture history and the design studio. Instead, both pedagogical methods and courses began with a shared premise that, like faculty, students themselves, and the lands on which their homes and schools were built, already represent global conditions. This article is organized in two parts. In part one, we consider a research assignment from an undergraduate World Architecture History course taught by co-author Aaron Cayer, titled "House Histories," and in part two, we describe a method for teaching design, taught by co-author Nora Wendl, in an undergraduate Architectural Design IV course. By teaching students how to view and examine themselves, their houses, and their metaphoric "backyards" as inherently global, we reveal how students are able to develop a greater sense of belonging in the classroom and profession, position themselves within and against communities beyond their own, and practice the kind of empathy and planetary responsibility demanded by the present.

INTRODUCTION

Over the past two decades, national accrediting bodies and academic groups in architecture have encouraged faculty to teach and adopt global ideas as a way to avoid the privileging of regionalist or nationalist views. Yet for those not trained or versed in global politics or history, this can sometimes be challenging and lead to encyclopedic understandings of architecture, time, and place. This article considers two different methods for teaching about architectural research and storytelling in both design and history courses that we, Nora Wendl and Aaron Cayer, have been adapting and assessing in our classrooms at the University of New Mexico. Developed and refined over the span of three years, both courses and methods began with a shared premise that, like faculty, students themselves, and the lands on which their homes and schools are built, already represent global conditions. By teaching them how to view themselves, their houses,

and their metaphoric "backyards" as inherently global, we have found that students are able to develop a greater sense of belonging in the classroom and profession, position themselves within and against communities beyond their own, and practice the kind of empathy and planetary responsibility demanded by the present.

This article is organized in two parts. In part one, we consider a research assignment from an undergraduate World Architecture History (1750-present) course taught by Cayer, titled "House Histories," which builds on insights from architecture historians such as Marta Gutman and cultural theorist Raymond Williams and asks students to research a house—broadly defined—from their own family. In part two, we describe a method for studio teaching, such as those taught by Wendl in her undergraduate Architectural Design IV course. Wendl's course builds on the concepts explored in previous lecture courses by providing students with methods and tools for site analysis and design with which they are able to architecturally reconcile and respond to some of the events—from colonial displacement to the developing and testing of nuclear bombs—that may have impacted their lives or communities in ways they may not have been previously aware.

While these two methods and courses-historical research and storytelling through design-were imagined and refined independently, they were coordinated and share a collective ethos that was intended to guide curricular revisions and break down some of the age-old ideological and disciplinary silos that often define architectural education, such as "history," "research methods," and "design." When viewed together, even if retrospectively, a map of a multi-course, integrated curricular sequence emerges: students are introduced to "global" concepts, they connect those concepts to their lived experiences, and they then practice reconciling and responding to their findings through site analyses and architectural design. This practice of meeting students where they are, or, better, where their families were, is guided by the pedagogical ideas of Paolo Freire, who argues that the learning gained from attaching global knowledge to local and personal experience contains within it the promise of future action-not just passive viewing or understanding of global "issues."²

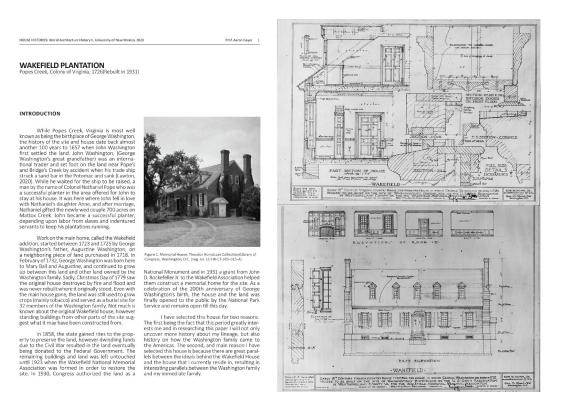


Figure 1. I. Tibbets, "House Histories" research paper, UNM, 2020. Image courtesy A. Cayer.

HOUSE HISTORIES

"House Histories" is a project that was initially developed by architectural historian and Dean of the Spitzer School of Architecture at the City College of New York, Marta Gutman, for her World History of Architecture survey course in 2019.³ In response to the flurry of initiatives throughout the 2010s that asked architectural historians to "globalize" architectural history while being impossibly explicit about "who the global is," Gutman's assignment served as her response: "the global is my classroom."⁴ As inspiration for the assignment, she cites art critic Holland Cotter, who wrote in a 2018 New York Times article in response to the toppling of confederate monuments across the US that "when we need to be as politically alert as possible, anything that gets us into the street, and keeps the reality-check called history in sight, is healthy."⁵ Building on these insights, the "House Histories" assignment by Cayer was adapted for a 100-person class of second year undergraduates at the University New Mexico, where 78% of the students are residents of the state. In other words, in a state defined by global events and radical contrasts, including the development and testing of the world's first nuclear bomb and the violent displacement of Indigenous peoples, "local" is all many students think they know. The "House Histories" assignment of Gutman's was expanded through the conceptual framework of Raymond Williams, who argues that, with distance, such as studying at college away from "home," the home and hometown become touristic yet still familiar; they are outside yet still inside; students are better able to see local conditions, as well as global ones.⁶

Throughout the semester, students were tasked with studying a house in which their family may have lived decades or centuries ago—they were encouraged to dig as far back as they could. The "house" could be defined as broadly as the student wishes; some students' case studies have included Navajo hogans, slave plantations, farmhouses, foster homes, dorm rooms, or suburban developments across the world. They began by conducting oral histories with their family members about the house and their family, and they then practiced connecting these descriptive insights—about who built the house, what it was made from, how it was organized, what rituals it implied—to forms and systems of global exchange discussed in the classroom: migration, industrialization, war, capitalism, colonial displacement, etc.

From there, they gather archival materials from their relatives or from local municipal offices, and they begin connecting the oral histories to the archival documents to the historical insights from class. One student used drawings from the national registry of John Washington's Wakefield plantation—the great grandfather of George Washington and distant relative to the student (Figure 1). Another student gathered images and drawings from his mother's childhood home in the Philippines, and he learned and wrote about the distinct histories of imported and local materials, from CMU blocks to nipa palm. Yet another student visited and photographed her great grandmother's Navajo hogan in New Mexico, and she described its significance to time, family rituals, and the Navajo concept of beauty—hózhó—and connected it to other shared spiritual practices around the world (Figure 2).

Hogan Nizhóní Coyote Canyon, NM, United States, est. 1940

INTRODUCTION

The research paper will be on my great grandmothers' house in Coyote Canyon, New Mexico. I am Native America, and my family has used her home in cultural ceremonies, as a dwelling, and even mariage ceremonies and cultural ceremonies. There are so many underlying meanings to a hogan that I will go through throughout this paper, Another detail that I find fascinating to me is the process in which it takes to put up the hogan. The construction of the home is quite intricate and time construction of the home is quite intricate and time construction of the home is quite intricate and time construction of the word of the construction of the home is one. I will also go not be opplain with the construction of the construction of the construction. I will also go on to explain why I believe that traditional Navajo architecture is reminiscent of modern architecture.

I am from Gallup New Mexico where I was born and raised. I would spend most of my time with my grandmother who would take me to visit my great grandmother who would take me to visit my great grandmother at her nursing home as she was very delerly and unable to function by herself. We would visit with her and talk to her about her life and she would sing traditional songs in Navajio in the adverymorning before and after doing her prayers. My great grandmother's name was Bisle Lee. She was born in Coyote Canyon, New Mexico. (Fig 2)

both in Coyate Carlyon, new Nessoc. (ng 2)

My great grandmother lived with her family in Coyate Caryon all her life. She fell in love with her husband and later married at her parents' home in Coyate Caryon. She asked my great grandfather to build her a hogan up the hill from where her mother lived. He did as she wished because in the Navajo culture, the matriarch is prominent withing the home. There they grew as a family and had five children. My grandmother Pearl Bautists was the second youngest of her siblings. Much of her life revolved around helping her grandmother as her mother would leave to work and provide for her family.



lived 5 miles down the hill from where my great grandmother had requested to have her hogan built. In between these two houses was my great grandmother's, my great great aun't's, hogan (Fig. 1). She reminisced on the closeness of the lautor of their family land. The area that has hogans that are grouped together is called a ""Kintah, ango houses", or by kin sinil, 'houses are there" (Haile 41).

There they grew as a family and had five children. My grandmother Pearl Bautista was the second youngest of her siblings. Much of her life revolved around helping he grandmother as her mother would leave to work and provide for her family.

PHYSICAL CONSTRUCTION

As a young child my grandmother remembers what it was like to live in such a tight knit community with her family all gathered within a 5 mi. radius. On the land, there was my great grandmother who



Figure 2.K. Chapman, "House Histories" research paper, UNM, 2020. Image courtesy A. Cayer.



Figure 3. Class compilation of houses, 2020, UNM. Image courtesy A. Cayer.

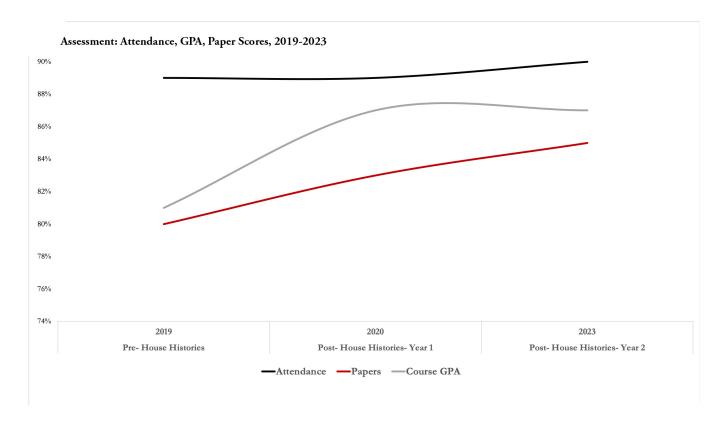


Figure 4. Assessment data pre- and post- "House Histories," 2019-2023, UNM. Chart courtesy A. Cayer.

By emphasizing the process of discovery, rather than the output itself—like a polished research paper or flashy drawings—students are able to spend time reflecting on how architecture materializes stories about who they are as individuals, shaped over extended periods of time. As an exercise in empathy, they also share their house histories with each other, which helps them to situate their own experiences within a more global past, present, and future (Figure 3). This process is often emotional and sometimes glaring, as radical class or economic differences are sometimes put on display, or as students grapple with darker pasts of their ancestors, such as owning slaves or working to engineer or build the world's first nuclear bomb.

In assessing the effectiveness of this method within a large class, macro data about attendance, house histories grades, and overall class GPAs provide helpful insights: while there may be several factors at play here, since 2019, when the class was taught with a more typical case study assignment, the scores of students' papers have increased significantly, as has their overall class averages and, to a lesser degree, their attendance (Figure 4). Not only does this demonstrate a deeper level of engagement in the classroom and with the history of architecture—often a least favorite subject among budding designers—but it also demonstrates the effectiveness of storytelling as a method. But then, how to build on these findings? How and where might they begin to reconcile and grapple with these personal pasts? It takes an integrated curricular approach, pulling a shared thread through different classes such as lectures and studios.

UNWASTELANDING

The second part of this essay turns to an upper-level undergraduate architecture studio that Nora Wendl has been teaching over the past three years. As discussed, many of the students at the UNM School of Architecture and Planning are from New Mexico-and yet they are not usually familiar with its history as the birthplace of the nuclear bomb. This studio asks students to engage the concept that Traci Brynne Voyles describes as "wastelanding," which is not so much about "the inherent value of wastelanded places as it is about the meaning-social, cultural, ecological, or juridical-that we make out of them."8 This studio frames a series of scaffolded projects that begin with constructing new meanings of place, segue to research and data organization, and result in architectural proposals for the site of the first nuclear test. These architectural proposals emphasize community space for archives, activism, and community organizing.

In the first project, "Unwastelanding," students select a local site, visit and record their experiences of it to share with the class, and then produce an intervention or documentation (body of photographs, a short film) that reverses the "wastelanding" being enacted on that site—present, or past. In the most recent iteration of this course, student Hannah Smith selected as her site a volcano that is missing from the Albuquerque Volcanic Field.



Figure 5. Hannah Smith, "Five Volcanoes in Albuquerque Waiting for their Lost Sister," studio project, UNM, 2022. Image courtesy N. Wendl.



Figure 6. Mayra Monge, "A Sense of Broken Glass," studio project, UNM, 2022. Image courtesy N. Wendl.

Mined for potash decades ago, the missing volcano is a void in the field. Likening this history to the missing sixth Caryatid of the Erechtheion (the one held in the British museum), Smith engaged history, performance and photography to document this lost volcano and record the history of its destruction (Figure 5).

Mayra Monge chose the Old River Landfill as her site, a 20-acre site in Albuquerque along the Rio Grande that was in use from 1920 - 1948. Today, it is filled with glass, which is all that remains after the city burned the rest of the trash. She produced a film in which she sifts through a pile of this glass—an act that is safe, as the glass has been warped and its edges smoothed by the aforementioned fire and decades in the sun (Figure 6). This performance was informed by the work of artist Nina Elder, who gave a lecture as part of this course and presented her film, Overburden (2021) in which the artist engages slag (the final product of copper mining) dumped on the US/Mexico border: tying pieces of it to her body in an ongoing (and futile) attempt to feel the weight of the consequences of this pollution.

"MANUALS OF ARCHITECTURAL POSSIBILITY"

Building on students' physical engagement with the landscape in this project, the course turns to researching the local experience of nuclear testing. Students meet Tina Cordova, a seventh-generation New Mexican born and raised in Tularosa in south-central New Mexico. She is also co-founder of the Tularosa Basin Downwinders Consortium (established in 2005), which works to bring attention to the negative health impacts of nuclear testing in New Mexico, particularly the Trinity test, which took place on July 16, 1945, in Alamogordo, New Mexico. Though most sources simply describe the area as a desert range—indeed, calling it Jornada del Muerto, translated as Journey of the Dead Man, the Spanish name for this desert basin-this area was inhabited by a population that was not informed of the planned nuclear experiment. Cordova and her fellow organizers have worked tirelessly to record interviews of families who have memories and eye-witness accounts of the nuclear fallout of this experiment and its aftermath which she makes accessible to students. The students also collect and read the declassified documents held at the Center for Southwest Research at UNM.

Building on research interests developed in their first project, students work in one of three assigned groups to document and graphically depict the most critical information of one of the following spatial-temporal situations related to the Trinity Test Site history: (1) the development and creation of the nuclear bomb (analyzing where materials were created and sourced; and the spatial and geographic center of its deployment); (2) its local and global consequences; and (3) the tourism of this event, which includes the biannual "Open House" events on site. These drawings are called "Manuals of Architectural Possibilities," drawing on the language of architect David Garcia, as the information they spatialize becomes the origin for their architectural proposals in the final stage of the studio.

Students Pateton Gonzales, Jennifer Dominguez, Mayra Monge, Irfan Gillani and Marrisa Parras translated the generational impact of this testing on New Mexico's economy, mortality rates, landscape, and atmosphere in a series of maps that layer on one another over a specially designed and constructed light table (Figure 7). Balancing this local history with the global events that transpired immediately afterward, and local narrative and experience with the detached "historical" lens that decenters the human experience, students discovered surprising ways in which their own families were impacted by or even employed in industries associated with the bomb.

Rebecca Tresise, Hannah Smith, Kelsey Hathaway, Kayla Duncan, Liz Kemp, and Alex Quintana worked together to study the history of the operation outside of Alamogordo, New Mexico, on what is now White Sands Missile Range, and juxtaposed historical evidence of local inhabitants and livestock on or near the site—primarily photographic evidence—with official government accounts that no locals or livestock were harmed. They organized this information in the form of a book that covers chapters of this history from development of the bomb through the aftermath of its impacts on local communities.



Figure 7. Jennifer Dominguez, Irfan Gillani, Pateton Gonzales, Mayra Monge, and Marrisa Parras, "The Light that Blinded History," studio project, UNM, 2022. Image courtesy N. Wendl.

"RE-MEMBERING HISTORY"

In the final phase of the studio, the class visited the Trinity Site during its "Open House." Driving to this site-hours from Albuquerque-students experienced firsthand how this history is currently organized on site. The class met Downwinders on Highway 380, just outside of the White Sands Missile Range: during each of the biannual "Open House" events, they stand at the entrance to the site, and hand out literature to drivers entering that contain information on the long-term health impacts of this testing (Figures 8 and 9). The Downwinders' goal is to have the government acknowledge and include them in the RECA (Radiation Exposure Compensation Act), a 1990 federal law that has paid billions of dollars in reparations to people exposed to subsequent tests on U.S. soil or during uranium mining, but excludes Downwinders impacted by the first test in Alamogordo. As Cordova writes in her recent New York Times Opinion article, the historicizing that happens on-site is much like the historicizing in the film "Oppenheimer," which leaves out many critical truths about the relationship between local inhabitants and the creation of this bomb, from which they were not protected:

"The Manhattan Project and the nuclear weapons industry used the promise of a better life to entice thousands of people in the Southwest into uranium mines that supplied the Manhattan Project. The miners went to work each day without adequate safety gear, while supervisors wore it head to toe. Miners seldom left the mines during their shifts, even to eat lunch...Many of the farmers of the Pajarito Plateau in northern New Mexico, after being displaced through eminent domain so that the Los Alamos laboratory could be built, were bused up the mountain to the lab site to do the dirtiest jobs, including building roads, the bridges, the facilities. When those were complete, many were given new jobs at the lab, including janitorial work. Their wives and other Hispanic and Native American women were enlisted as domestic workers who cleaned the houses, cooked the meals, filled the baby bottles, and changed the diapers in the remote compound while the bomb was being developed."9

Trekking onto the site, students encounter only a sliver of this past: a chain link fence tracing the outline of the original blast; a 12-foot-tall obelisk made of lava rock documenting the date of this explosion, and the remains from the tower on which the bomb was placed for this test (Figure 10). We engage this site so that they can experience how this history is recalled on a (still active) military compound. Here, historical interpreters are stationed with Geiger counters: they argue that bananas are more radioactive than the landscape, and that the bomb was necessary to end World War II—with little to no mention of historical evidence that this is not true, or the great cost of human lives in Japan and the U.S.

Though an appropriate historical marker is missing from the site, the studio prompt doesn't focus on this: instead, it asks





Figures 8 and 9. UNM SA&P ARCH 402 students meeting with Downwinders on Highway 380, outside of Trinity Test Site. Images courtesy N. Wendl.

students to design a public building that actively remembers this history not as an event of the past, but one that is ongoing. Rather than locating this structure on the site itself, students design their interventions for the place along Highway 380 where the Downwinders protest when the site is open—offering the community shelter from the sun, comfortable spaces for education and community organizing, and spaces for Downwinder archives, which continue to grow.

In response to this prompt, student Pateton Gonzalez designed an educational, memorial, and activist space that engaged the landscape as a critical part of the building—designing subterranean spaces for mourning, reflection and renewal, while envisioning this structure as one that would shift and potentially decay over time (Figure 11). The physical matter of the earth is treated as a material part of this project which, in Gonzalez's words, "commemorates the land impacted by the test, bringing large portions of the earth into the space and into the gaze



Figure 10. View of the Trinity Test Site during a visit, October 2021. Image courtesy N. Wendl.

of every visitor." Further, as the landscape is comprised of and covered with loose dirt that moves with every gust of wind, Gonzalez envisions dirt entering the building "through gaps in the glass over the years, eventually filling and overtaking the space so that it may become an environment for wildlife and ecology to take shelter and thrive after us [humans]."

Taking an alternative approach to this site, Rebbeca Tresise envisioned an agricultural landscape on the site—with agricultural workers reclaiming the McDonald Ranch, which was previously occupied by ranchers displaced in 1942 when the Alamogordo Bombing and Gunnery Range seized it. In Tresise's proposal, phyto-remediating plants reclaim this landscape and, over generations, transform its radioactive land into healthy soil—shifting the site from its present use as a test site for missiles to a future (and historic) use as food-producing (Figure 12).

CONCLUSION

Though only described in a few projects and assignments, taken together, these two approaches to teaching architecture—one that positions the house as a global construct through historical research and the other that considers landscapes with

global consequence through design—teach budding architects the importance of geopolitics and geopolitical storytelling. These approaches bring global views of architecture into the local and material foreground. By situating architecture within broader political, environmental, and personal narratives, students are able to see themselves as participants in global pasts and futures and develop a greater sense of planetary responsibility.

By emphasizing engaging and learning concepts such as environmental racism and colonization, students are better able to identify systemic experiences, name them, and see the impacts on their own lives and families; they're also equipped to begin to practice interrupting privileged or biased views through architecture. Instead of focusing on "that issue over there," a privileged position all too familiar in some forms of community-engaged design, students engage and learn through situated knowledge, empowering self and community.

ENDNOTES

- See, for example, references to the "global" in the National Architectural Accrediting Board's 2020 and 2014 Conditions for Accreditation. See also the work of the Mellon Foundation-sponsored Global Architecture History Teaching Consortium, based at MIT and led by historian Mark Jarzombek. https://gahtc.org/pages/about-gahtc> Accessed Nov. 20, 2022.
- 2. Paolo Freire, *Pedagogy of the Oppressed* (New York: Continuum, 2000), 95.
- Marta Gutman, "Who Is the Global? Part 2: The Meaning of Your Last Name," Platform Space (2019), https://www.platformspace.net/home/who-is-the-global-part-2-the-meaning-of-your-last-name Accessed Nov. 20, 2022.
- Marta Gutman, "Who Is the Global? Part 1: The Global Is My Classroom," Platform Space (2019), https://www.platformspace.net/home/who-is-the-global-part-1-the-global-is-my-classroom Accessed Nov. 20, 2022.
- Holland Cotter, "Half-Measures Won't Erase the Painful Past of Our Monuments," The New York Times, Jan 12, 2018. https://www.nytimes.com/2018/01/12/arts/design/statues-monuments-deblasio-commission.html Accessed Aug. 7. 2023.
- 6. Raymond Williams, Border Country (London: Hogarth Press, 1988), 75.
- We recognize the importance of including student names and recognition for their work. Due to the personal nature of this particular assignment, student's full names have been removed from the paper.
- 8. Traci Brynne Voyles, *Wastelanding: Legacies of Uranium Mining in Navajo Country* (Minneapolis: University of Minnesota Press, 2015), 17.
- Tina Cordova, Opinion, "What 'Oppenheimer' Doesn't Tell You About the Trinity Test," The New York Times, July 30, 2023. https://www.nytimes.com/2023/07/30/opinion/international-world/oppenheimer-nuclear-bomb-cancer.html Accessed July 31, 2023.
- Pateton Gonzalez, "A Monument to the People and Ecology Affected by Trinity," ARCH 402, Fall 2022, University of New Mexico School of Architecture & Planning.



Figure 11. Pateton Gonzalez, "A Monument to the People and Ecology Affected by Trinity," studio project, UNM, 2022. Image courtesy N. Wendl.

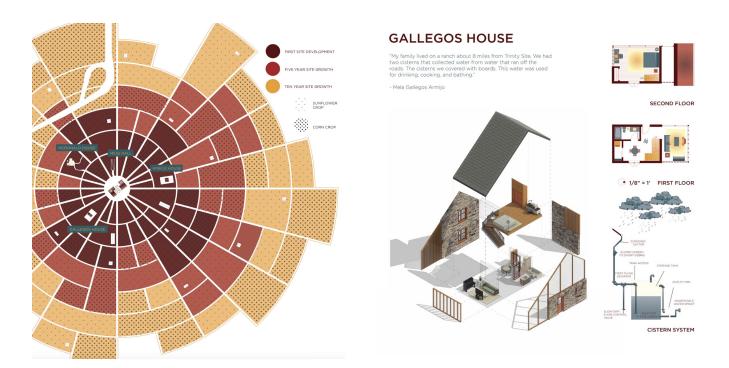


Figure 12. Rebecca Tresise, "S-Site," studio project, UNM, 2022. Image courtesy N. Wendl.