



MAP ICONS

New ways of marking Cold War geographies

TRAILS

Tracing nuclear legacies through movement.

**MONUMENTS** 

Making present knowledge of our atomic condition.

**PARTICIPANTS** 

DOO

Who we are and where we work.

## Introduction

# THE CHARRETTE

On Saturday, October 26, 2013 the National TLC Service held a design charrette at the Figure One Gallery in Champaign, IL to plan the Illinois route of the National Cold War Monuments and Environmental Heritage Trail. A charrette is a workshop in which a group of stakeholders and designers collaboratively draft solutions to a problem or issue.

Our charrette included seventeen participants from Champaign-Urbana, Chicago, and the St. Louis area. Through a daylong series of discussions and drawing sessions, the group mapped Illinois atomic geographies; brainstormed ways to represent the conceptual and political issues raised by them; and proposed routes and actions linking regional sites with national and global centers.

By the conclusion of the day, shifting groups had collaboratively sketched a diverse set of strategies to mark and commemorate the continued presence of nuclear weapons, materials, and wastes in our everyday lives, lands, and bodies. This book documents their work.



## Space and Time

Résponding to the challenge of representing both time and space in a single map, Jesse Vogler used intersecting planes to remind us of 'deep time' in any given location.











Magic Fence

Critiquing the idea of the 'magic fence' that supposedly prevents radiation from leaking into surrounding areas or ground water, Joan Walbert and Susan Folle developed a boundary icon containing morse code for "SOS."



Fallout Rankings

Mike Lehman played on both the Arbor Day Foundation's tree marker signs and the familiar recycling symbol to create an informational graphic marking municipalities' rank in cumulative national fallout exposure.

Contaminated/ing

David Kraft distinguished between past and ongoing contamination with contained and radiating hazardous waste symbols. The direction and number of the arrows could indicate severity and type of contamination.





## Flows and Intersections

Seeking to represent complex relationships between sites and materials, Kevin Hamilton, Ellen Hartman, and Yuki Miyamoto, developed several variations on the arrow and "you are here" dot.



## Containment Systems

Rohn Koester responded to the frequent siting of waste repositories and prisons in remote, rural locations. Calling for a more expansive mapping of Cold War geographies to include ostensibly unrelated contemporary phenomena, Koester's graphic draws attention to the impulse to contain and make invisible that underscores both prison and waste management systems.







Metamorphosis

Jennifer Smith's diagram of the use and release of the earth's radioactive materials resolves into a butterfly, referencing the pattern of Chicago's Nike missile sites and suggesting the transformative power of activism.



Danielle Chynoweth's icon of closed

eves is intended for toxic sites that

suggests the answer to the problem-

atic 'knowing yet ignoring' of toxicity

is a collective opening of the eyes.

are rendered socially invisible. It

Sacred/Profane

Rohn Koester's paired icons seem to call for a mapping of emotionally and spiritually sacred sites alongside the 'profane' threat posed by sites for the production and testing of atomic weapons.







How can a map reflect the continuing, embodied presence of the Cold War?

The charrette began with the annotation and critique of a map of Illinois atomic geography produced by the National TLC Service. Discussion emphasized not just the location of sites but their relationships to one another and to other geological and historical layers. The tendency of maps to present an argument as fact and the inevitable omissions produced by editorial imperatives of clarity also figured prominently in conversation. Participants brainstormed concepts and relationships they would like to see on the map and were asked to design alternative map icons, shown here.

Tree heave in Mathematical house

Marchiden His commity of glade

## Resistance

Reflecting on the tendency of maps to mark infrastructure and obscure action, Danielle Chynoweth created an icon to mark sites of resistance—to nuclear weapons, to dangerous labor conditions, to unsafe waste practices.



## Political Relationships

Rohn Koester began to develop a series of graphics to mark and characterize sites of social and political conflict around atomic weapons, nuclear power, and radioactive waste.



Materials Movement Kevin Hamilton, Ellen Hartman, and

Yuki Miyamoto placed their arrowand-circle icons on a map of Illinois to show the movement of Manhattan Project uranium into St. Louis for processing and then throughout the state for further stages of the weapons development process.



## Containment (Not!)

Danielle Chynoweth's radiating and cyclical radiation hazard symbol points to the impossibility of total containment.









## Rods and Bricks

Amber Ginsburg experimented with more abstract icons using the form of the graphite and uranium rods and bricks used in nuclear chain reactions.

## Migration and Containment

The transnational movement of radioactive elements and the role of corporations in the nuclear supply chain is contrasted with the futility of post-production containment in this pair of icons by Rohn Koester.

This tour by train, along tracks that also carried nuclear material, will converge in Chicago from around the state, and then continue on to Washington, DC, to demand government action to address the dangers of atomic energy and weapons production. With people traveling to meet in Chicago from all over Illinois, there will be opportunities on the different routes to visit sites that were or are involved in atomic-related research. production, storage, military bases, and radar installations. Distributed around the state. then, people will arrive in Chicago with varying experiences to share about the different sites they visited. The train tour to Washington—contained in a single rail car equipped with speaker and projection systems—will resemble a mobile seminar as people share resources and information and build strategies for holding polluting entities accountable for the poisoning of air, water, and soils.

-Sharon Irish

We based our design around the railroad as a space of travel that facilitates social interaction while also prodding us to think about other "carriers," modes of transport for materials, people, and waste in the nuclear industry. Our idea imagined three tours based around three AMTRAK spokes across Illinois, converging in Chicago for a joint tour to DC for action and education of legislators and policymakers.

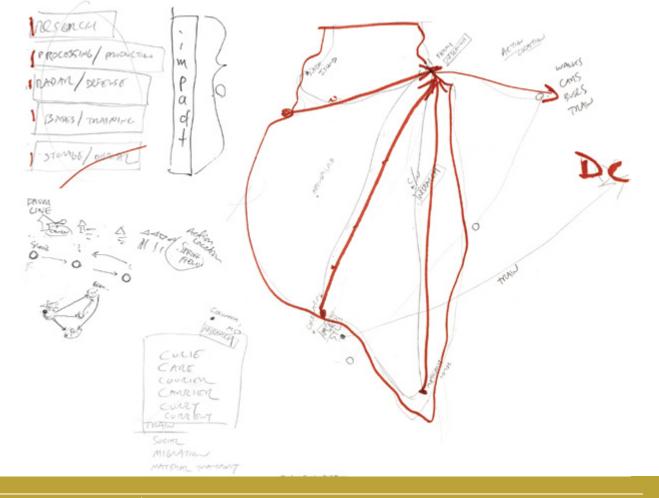
One tour would start in St. Louis at the Coldwater Creek site, another farther South at the Metropolis site, and a third at the Rock Island arsenal. Each tour would make stops to move from train to car to foot to visits of other nuclear-related sites in Illinois. Each site would be sure and visit one site each of a few types: Manufacturing, Research, Processing/ Waste, Training, and Deployment/Defense.

The idea here is to get people seeing sites of different types together, and then sharing stories of their visits with others on the trip from Chicago to DC. Like a drumline formation in New Orleans, the disparate group efforts converge and form a new story, with an emphasis on education the whole way through.

–Kevin Hamilton

## TRAILS

What stories can we tell through movement? After a show and tell of map icons, we discussed the idea of the spatial narrative - that ideas and arguments can be put forward by encouraging the movement through space in a particular way. In self-selecting groups, participants then sketched experimental routes through Illinois atomic geographies.



Nuclear Carrier Rail Tour

Danielle Chynowet Kevin Hamilton Sharon Irish This trail incorporates all of the nuclear-related site in Illinois. It is a self-directed tour, completely interconnected, yet with no beginning or end spot. People can start anywhere, and follow the tour as long as they wish, then get off. At (or near) each of the sites, three main components characterize our plan:

## 1. Info marker and narrative

Each site would have a short narrative developed, explaining its role in the Cold War. This would be analog posted, as in traditional "historic marker" use, and also have a GPS sensitive voice link narrative, which would be activated when one gets within a certain proximity of the site. Size and shape of the marker could indicate things like significance, or type of installation (e.g., defense, fuel-cycle, research, etc.)

## 2. M\*A\*S\*H-like direction pole marker

A sign post would be installed at each site, with directional arrows pointing in all directions towards other sites on the Tour. They would have the names of those sites, and the distance to get there as the crow flies (just like in the television show M\*A\*S\*H). The size of the arrow would indicate a site's significance in the total narrative of the Cold War. Two arrows would be common to ALL posts—one pointing straight up, and one towards the ground—symbolizing fallout, and buried wastes.

## 3. A fixed die marker for rubbings

This is the "take-away" component of the tour for each participant: a SYMBOLIC

MARKER unique to that site would be planted into the site. Anyone could place a sheet of paper and use a pencil, charcoal, etc., to take a rubbing of the site marker. Raised markings on the marker would indicate a site above ground; depressed markings would indicate a site below ground or out of sight. The symbol developed in the charrette was a circle, with a line connecting two dots, one at the center and one on the circumference, which resembles a hydrogen atom.

People on the tour would be encouraged to take paper rubbings of the unique markers at tour sites (instructions would be both on the analog and taped message). In advance, as part of the promo for the tour, people could send away for a pre-printed rubbing sheet, so they could take it on tour and collect as many rubbings as they wish. It's possible a completed sheet could be returned for some kind of 'premium' (a book about the Cold War; ingot of radioactive waste, etc.)

It might also be possible to recruit some local person or group to be caretaker for the individual sites, and to act as a "guide" for visitors, for a small fee. This insures upkeep, local buy-in, and minimal overhead; and can be an income generator for the recruiting person/group.

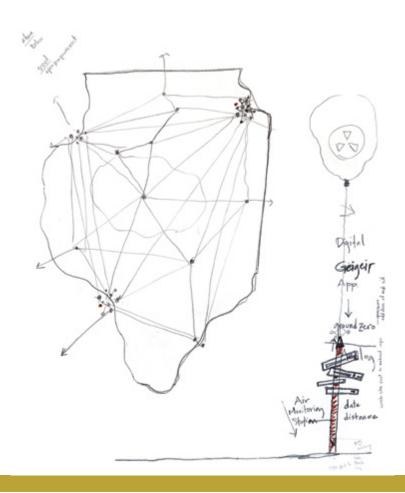
-David Kraft

This tour emphasizes the tangible and intangible properties of a network of nuclear sites. Each site represents a node within a chronology of nuclear history as well as the impacts on ecological and social factors beyond its boundaries. Linking these elements to a geographic scale proved complicated because of the complex range of data that needed to be represented.

The network of sites and layers of information and interconnections led to the idea of a mobile device app. After downloading the program, the user would be alerted to proximity of a site when traveling. The initial alert would provide basic information and directions to the site. Once at the site, the app would act as a historical and environmental lens to augment and explain the site's current conditions. Former buildings would be placed in the scene, work conducted at the site would be illustrated, and the subsequent environmental effects would be overlaid onto the current setting.

Due to the ever-changing nature of technology we also wanted to incorporate an analog component. We proposed a sign post for each location that would point the direction and relationship to neighboring sites. With the sign post, we wanted to represent the intangible aspects of nuclear history, in particular fallout and air quality data. To do this, we proposed that the sign posts also serve as air monitoring stations that would glow in a range of colors to represent real-time air quality data.

–Ellen Hartman



Nuclear Web Tour

Amber Ginsburg Ellen Hartman David Kraft Mike Lehman

ur group was fascinated by what we learned about radioactive waste in St. Louis. Of course, the story is not just about St. Louis, but also where the uranium originally came from and the entire, nationwide processing infrastructure. But we also wanted to expand it further to Hiroshima, Japan—where the uranium enriched at St. Louis was used. A "Testimony Legacy Tour" is what we had in mind, which was translated into more metaphorical image in the end. In other words, we are not just visiting from monument to monument, but people themselves are the monument. The legacy is inscribed in their body (often as damages), and we need to listen to them. The Cold War legacy is not just the US story, but the Cold War "system" affected further than the US borders. Nuclear weapons do not "protect" us, but on the contrary "harm" us, and radiation penetrates national, ethnic, racial, regional borders. Once we encounter those who carry the legacy, we need to carry it on.

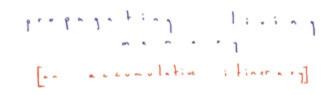
-Yuki Miyamoto

We produced two itineraries: The Manhattan Waste Project [an interim itinerary] (MWP), and Propagating Living Memory [an accumulative itinerary] (PLM). They are both predicated on the impossibility of ever being able to geographically describe or 'map' the reach of something as diffuse, invisible, etc as the nuclear legacy. As such, the MWP is a textual attempt to index an excluded middle---a looking-away that characterizes much of historic memory and living affect in regard to nuclear issues. An emptiness not of absence but of unknowable effect. Focused on a series of sites in western St Louis county, the MWP can be expanded as more sites come on-line and into public consciousness--from a square to a pentagon to an octagon, etc. 'Interim' as an acknowledgement that it is always already incomplete at the time of its inscription. Empty at its core.

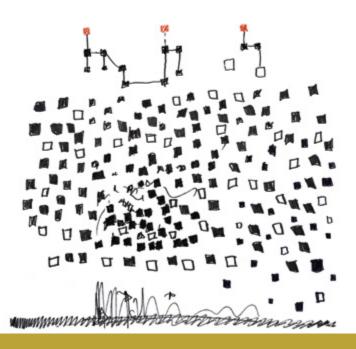
Building on Yuki's description of the PLM, I would just like to highlight the 'accumulative' nature of this itinerary that acknowledges the paucity of official attempts at memorialization and instead relies on the lived memories, told stories, remembered or heard stories, as a vector for awareness. Memory as an accumulation—and probably an incomplete jumble—of public and private narratives.

–Jesse Vogler









The Secret History of the Cold War: Cold War as Hyperobject explores the potential of spontaneous choreography within a related set of information pertaining to America's nuclear history. Visitors are taken either physically or digitally through a fixed information set, so that each visitor receives the same information but is prompted to form unique cognitive relationships. A driving theme of the tour is the conundrum of perceived danger or safety in relationship to invisibility. The only logistically defined stop on the tour, visitors are first taken to "nowhere," where danger is implied but not certain or seen (as is the case with nuclear fallout). At the tour's conclusion. visitors are brought to the physical remains of an actual nuclear waste container, where here the visible material object—at one time designed for safety—evokes trepidation.

-Joanie Walbert

Participants board a bus and travel to various locations (some described below). During the time on the bus, the driver and tour guide will present general information about the Cold War not immediately relevant to the locations visited.

At the first location, which is "nowhere," participants decamp the bus and then stand in the middle of nowhere, while the driver stays on the bus. The only answer the driver tour guide gives to questions hinge on, "I'm not authorized to disclose that" and making clear that the site involves some secret.

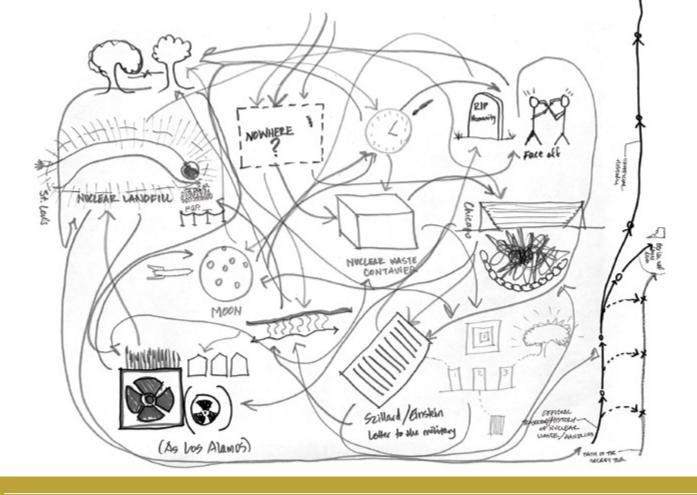
Other locations include:

- (1) an interactive block of some sort that would click with a Geiger counter, if the tour guide's Geiger counter still worked;
- (2) a multi-locked building, at the center of which are three doors. The first opens on a shackled inmate in a prison; the second opens to Einstein's letter encouraging FDR to build the bomb, and the third simulates an experience of an atomic explosion;

- (3) a corn field currently in the path of fallout from Los Alamos;
- (4) reference to, if not the place actually, where the first chain reaction occurred:
- (5) a location where underground water is polluted with radioactive material;
- (6) a location to stop and look at the moon, with reference to the atomic bomb to be exploded on the moon and the radium-faced clock factory;
- (7) and the last stop, making explicit both the general absence of people so far and contradicting the sense of "then" historically, the group meets people face-to-face in St. Louis who are looking down the barrel of a dirty bomb going off in their city.

At every stop, it is those on the tour who must converse with themselves, share stories, narratives, ideas, guesses and hunches about the secrets—this helps to create a sense of "here" and "now" rather than "there" or "then" that a "historical" tour might otherwise encourage.

-Snow Leopard



A Secret History of the Cold War: Cold War as Hyper Object

# MONUMENTS

How can a monument make present and collective our knowledge of the persistence of the atomic in our lives, lands, and bodies?



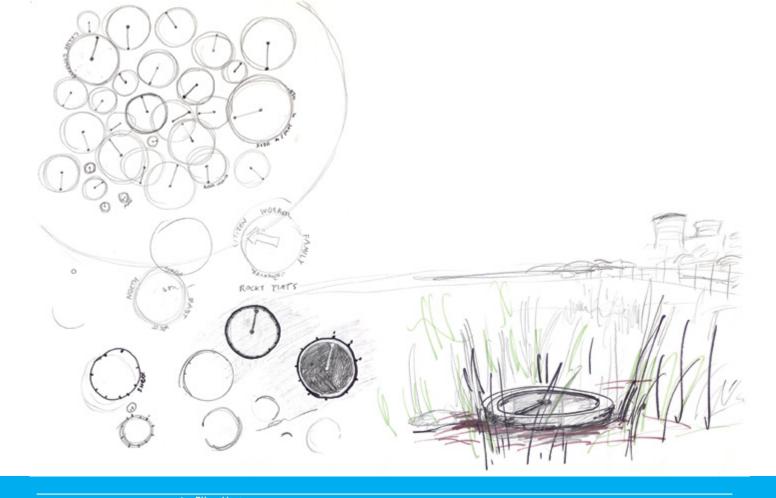
eveloping a monument strategy was a continuation of one of the small group's trail development efforts. Because our trail proposal relied heavily on technology, as a counter-point we wanted to develop an analog system for monuments. We began exploring the idea of visitors taking something from each site. From this conversation we designed a system of brass markers, much like USGS datum points, that could be easily and discretely deployed at each site. From these markers, visitors could make a graphite rubbing that would be scaled and oriented according to the importance, chronology, and use of the site. Distributing the knowledge of the markers would occur through a website where users could send away for the official rubbing form onto which they can collect rubbings from all of the sites.

-Ellen Hartman

Our design focused on creating lowimpact and even illicit markers for the series of sites presented in the workshop. Assuming the value of physical visits to these sites (as a form of pointing, and a mode of growing knowledge), we imagined a way to mark site visits the way tourists mark their "acquisitions" via stamps in books, patches, etc.

Our system implants a small round brass medallion at each site, designed and cast to serve as the basis for a rubbing. We would provide instructions for site visits on a website, and a printed sheet to serve as the collection surface. Visitors could slowly fill up their sheet with rubbings from the sites. Our idea imagined the sheet as containing names of sites, as well as some mechanisms whereby rubbings would be oriented within the sheet to operate on individual, subjective registers and elicit personal and emotional connections to the site.

-Kevin Hamilton



Citizen Secrets

Ellen Hartman Kevin Hamilton David Kraft Mike Lehman One: A curious block of solid stone from which sounds at times emit, including a cat's meow, a Geiger counter ticking, and a clock-like "plink" as if time is advancing, along with other bemusing sounds (perhaps occasionally the block laughs). On one side, a movable bench on rails labeled "THE BENCH OF UNCERTAINTY" provides a place to sit, closer or further from the block as people wish. At either end of the block, as well, are two swings, with the backs to the block. People may sit and swing on them; these are labeled the "SWINGS OF GEOPOLITICS."

Two: A series of complimentary coffee mug, shaped like a reactor cooling tower and with a handle wrapped in barbed-wire, each emblazed with one of the Illinois State Penitentiaries on it (collect them all!).

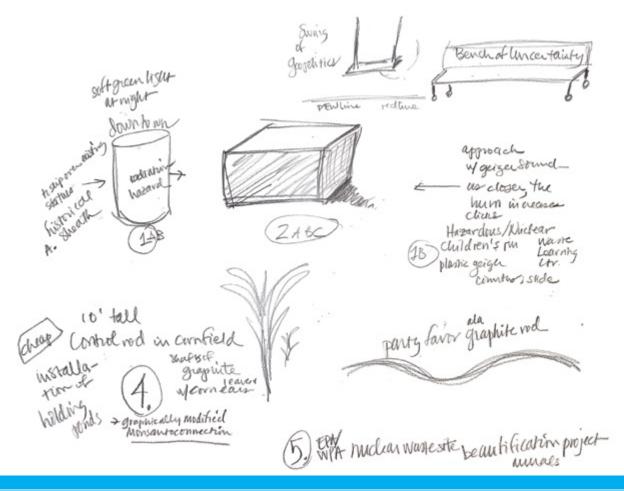
Three: A large nuclear waste containment vessel, designed for scientifically informative and interactive fun with the kids. This includes hand-held, obviously fake Geiger counters that users can click faster and faster as they get closer and closer to the waste vessel.

Four: A hollow, "sheath-like" covering that one can slip over various existing public statues (e.g. Abraham Lincoln, University of Ilinios' Alma Mater statue) as a gesture of containment and the myth thereof.

Five: This monument is the most deceptively subversive. On the notion that most public art funded and purchased by municipalities tends to be hopelessly abstract, because it has the least meaning (in theory) and thus the least capacity to offend, we propose a single thick, tall column of graphite (or something that looks like graphite, if graphite is expensive at that scale). While this resembles the monolith from "2001" or the center of a No. 2 pencil, it actually stands for the control rod in a nuclear reactor. On top of the column (2' across, 15' high) is a short figure holding an ax near a rope. I would especially try to promote this monument as a state-wide gesture of municipal pride, telling the city's stewards that this sort of thing (like a prison or nuclear reactor) should generate income for the town. It would be a secret of the Cold War what the columns really signified. Done with proper stealth, cities could actually be duped into erecting these monuments, I'd think, which is symbolically exactly right.

Six: Lastly, as an overt and open variation of the fifth proposal above, an entire acre of fallout-affected soil, with corn, would be planted with columnar graphite poles, each with dark green corn leaves and ears of corn sticking out. They would be planted in the earth in straight rows. This overt protest could link with a protest against Monsanto.

-Snow Leopard



**Nuclear Town Square Monument** 

Sharon Irish Rohn Koester Snow Leopard Jesse Vogler

The cooling tower as coffee cup is a "nonument" that is small in scale, easily replicated, and available to distribute widely. The shape will be the hyperbolic paraboloid of atomic energy plants, with steam from hot drinks rising from the cup. The handle will be of simulated razor wire to remind the user of the ever-present dangers of nuclear reactions and their aftermath. On the exterior of every mug ("collect them all!") will be an imprint of a different plan or view of an Illinois prison (state or federal) and its location. Prisons and nuclear by-products are toxic to our environment, including the people associated with them, of course. Under the guise of providing jobs, prisons and atomic energy sites are often located in poor, rural areas of the state. In recognition of these "awards" for toxic jobs and prison complexes, the mugs could be displayed in a "trophy case" in town halls across the state

-Sharon Irish

nuclear CONTAINMENT Pipeline metaphor cups distributed pufiles of prisons to rural towns. on cap parole - toxic waste release accident - negligence nuclear in dustry - prison uprising - met + down + failures @ nukes regulations

**Coffee Cup Nonument** 

Sharon Irish Rohn Koester Snow Leopard Jesse Vogler During the charrette, the STL-Aware campaign found ways to visualize the issue of Manhattan Project wartime radioactive waste dumped in the area of North County, St. Louis, MO. One is a sign campaign where the state Department of Transportation would respond to the request for signs along the route to the waste storage area. This would enable visitors to the area to identify the areas with a history of Manhattan Project waste, past and present.

Another vision utilizes a farmer's field, visible from the busy St. Louis Airport, where plane passengers would see the radiation hazard sign as they approach/depart the airport.

A third part of the campaign is to make signs reading "OUT NOW," where the second "O" is the radiation waste sign. These signs would be available for residents to place in their yard near the West Lake Landfill in Bridgeton, the site of radioactive waste in a landfill with an underground fire less than 1000 feet from it. The site is currently under the auspices of the Environmental Protection Agency, but residents want it turned over to the US Army Corps of Engineers for removal to a licensed repository.

The Manhattan Project waste in the St. Louis area has left a legacy of disease and heartache and will forever change people in that area

–Susan Folle

About one year ago I learned the extent of radioactive waste in the St. Louis region. Mallinckrodt Chemical Works (MCW) in downtown St. Louis, MO processed U-235 for the first atomic bombs dropped in Japan. MCW then stored the waste at the Lambert Airport, about one mile from my home in Berkeley, Missouri. The radioactive waste had been leaking into Coldwater Creek and blowing in the wind since the 1940's.

I became involved in the Coldwater Creek effort to get the waste cleaned up because it had impacted the health of so many residents in the St. Louis North County area. At this time I also learned that the remaining waste piles had been dumped in the West Lake Landfill in 1973. That landfill is not a federally licensed repository. It sits next to another landfill with an underground fire burning towards the radiotoxic waste. On any given day, roughly 80,000 people are affected by the waste stored there. A disaster waiting to happen.

STL-Aware is actively educating local residents, businesses, workers, and elected representatives about the health risks of this radiation. It has impacted many areas in the St. Louis region from east of St. Louis MO, in Illinois, west to St. Charles, across the Missouri river, south to Jefferson County, Hematite, MO.

We design activities coordinated with other groups including West Lake Landfill (Facebook group), Coldwater Creek-Just the Facts (Facebook group), Missouri Coalition for the Environment, and Justice-Ecological Coordinator at Franciscan Sisters of Mary.

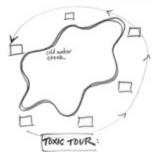
Our current focus is getting the radiotoxic waste removed from the West Lake Landfill. It sits at the intersection of two interstates and is within one mile of the St. Louis/Lambert International Airport. We wanted to design sign projects to increase awareness in those areas. We also wanted to design a campaign to increase awareness of current residents in the Coldwater Creek area by planning toxic tours and mini-meetings in smaller neighborhoods of that area.

-Beth Pross

Concepts: The Continuum of Harm.

Congo Straye - STL -> Hirrorime ->
EVeryone Affected

Question with No Answer



Former & Current Residents Shore their Experiences video d audio record d share



YARD SIGN CAMPAIGN Yard signs for residents along Cold Water Creek



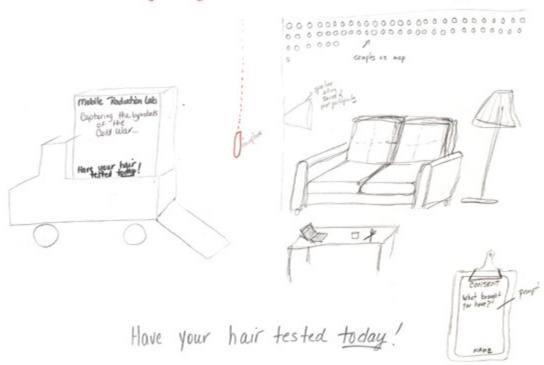
This mobile monument can be situated in downtowns, galleries, museums, county fairs, protest sites, polling stations—in short, anywhere. As an ultra-government project, the Mobile Radiation Lab not only tests for heavy metals in hair, but documents personal histories. As the database grows, this allows for more nuanced research on the correlation between toxins, disease and lived experience.

This project comes out of the frustration of insufficient documentation on toxins stored in our bodies and with disease classification. Diseases are catalogued by the city and state of diagnosis. This means that disease clusters caused by proximity to toxic sites are impossible to correlate as families and people migrate over their lifetimes. Recognizing that disease, environment and storytelling are enmeshed, the Mobile Radiation Lab works to collect both narrative and statistical data.

During an interview, personal histories will be archived, hair samples taken and a personal story recorded. The stories begin with the question, "What brought you here?" The narratives continuously loop within the room

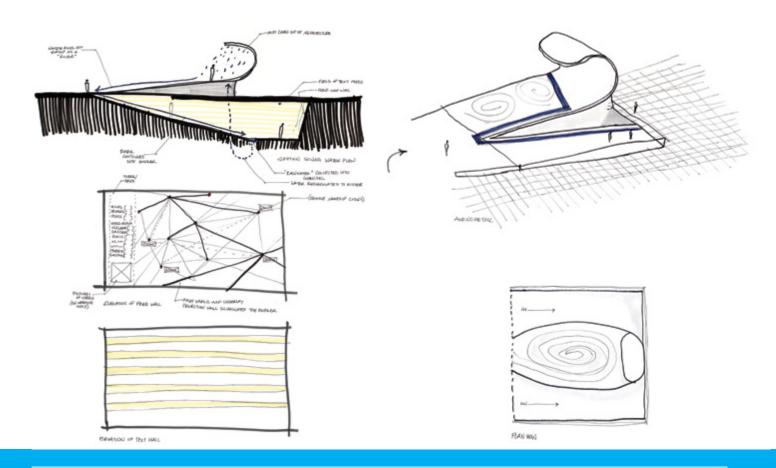
-Amber Ginsburg

## Mobile Radiation Lab captuing the byproducts of the Cold War...



The architecture of this monument is shaped to suggest the cycle of rainwater. Rain is a potent vector for nuclear contamination effecting both the landscape and people. To commemorate those who were subjected to specifically rainwater-carried fallout, visitors to the monument follow the path of water through the space. A tilted plane touches down at street level, carrying visitors up through a labyrinthine garden space culminating in a misting area—where the rain first falls. This water runs in channelized rivulets down the tilted plane and into the subterranean "bunker" space of the monument. Here, the compression of the dark walls shifts the mood from uplifting to contemplative. Visitors are met with multiple forms of live media feeds which communicate the prevalence and presence of those suffering from exposure to nuclear fallout. A live ticker wall displays thoughts and interpretations sent in by users. At the back wall, a working map and data matrix visualize the incoming information and synthesize it into a comprehensive reflection on the current reality of the world's nuclear legacy.

-Joanie Walbert



**Mourning Monument** 

Meadow Jones Melanie Meltzer Joanie Walbert

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**Sharon Irish** 

**Kevin Hamilton** 

**Ellen Hartman** 

Mike Lehman

Rohn Koester

**Meadow Jones** 

**Snow Leopard** 

Melanie Meltzer

