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ABSTRACT

A school residency project balloons in complexity, difficulty and meaning—making the incomprehensible tangible.

The Holocaust Memorial Sculpture Project:

An Artist's Tale

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Okay, I admit I'm a bit discouraged. I've been on many school projects that I sailed into with an idea, a few parameters, an unknown cast, a bagful of optimism, and watched as, miraculously, they worked. The students discovered or refined their talents, the school got a new site-specific artwork, the faculty was amazed, the administration was impressed and all within a deadline of ten to fifteen days.

But this project is different. We're beyond a ten-day residency. We're beyond a 30-day residency. We've passed several hoped-for deadlines. The original cast of students has graduated from eighth grade and gone on to high school. And I, the Artist-in-Residence, usually the supreme cheerleader and believer in positive outcomes, am beginning to wilt.

It's probably the numbers: 6 million, 2,600, 255, 960, 42, 120,000. But let's go back to the beginning before the numbers seemed insurmountable and enthusiasm flowed like an electric current.

"What if we made them into a curtain and hung them from the roof of the school?"

"Nah, too complicated … what if they rusted?"

"And how would we get them up there?"

"What if we made a tree out of them, like the Tree of Life?"

The students' suggestions came fast and furious in our initial meeting in May 2002. I quickly appointed an assistant to capture all the comments on paper. As the Artist-in-Residence at the Community Day School in Pittsburgh, Pennsylvania, I had been given a serious mission. I was to guide the students in the

process of creating a Holocaust Memorial Sculpture using a truly unusual material: aluminum pop tabs.

The project had started in the spring of 1996, when the social studies teacher, Mr. Bill Walter, wanted the students to understand the enormity of the Holocaust. He gave his students an assignment: They were to collect the pull-off tabs from aluminum cans, bringing them in until the total was 6 million, symbolizing the number of Jews killed in the Holocaust. It took them almost 5 years to amass the 6 million. A looming wall of pop tabs took up about a quarter of Mr. Walter's room.

After such effort, giving them to a recycler seemed sacrilegious. How could they be made into a serious memorial? A determined parent contacted the Pittsburgh Center for the Arts, where Mary Brenholts is the Director of School and Community Programs. Knowing that I had used recycled materials, as well as created large-scale sculptures for public places, Mary recommended me for the project. And that is how I came to be "haunted" by pop tabs, and the first number, 6 million.

Kids struggled to develop their ideas while meeting our design criteria.

Six million pop tabs weigh 2,600 pounds and take up 255 cubic feet. We determined these numbers early with the students weighing a pop tab on the chemistry lab's scale, then multiplying by 6 million. But of more concern was the design.

Leading the students through all the processes of creating a large-scale artwork, I had them "Think Backward" by imagining the desired audience reaction:

"How do you want your parents or visitors to feel when they see the finished sculpture?"

"Impressed!"

"Thoughtful!"

"I want them to say, 'Did kids really make this?'" said one student.

"Then what qualities does the sculpture need to create that reaction?" I asked. Jointly, they made multiple lists of design criteria, problems to solve, and site requirements. As we toured the school grounds, they recorded the positive and negative aspects of each site: Was the ground even? Was the location visible from both the school and the street? Would trees interfere with the construction? Afterwards, they evaluated their data and voted on the front lawn of the school as the best location for the sculpture.

They downloaded an image of Picasso's "Guernica," and looked up the myth of the phoenix as we discussed symbolism, political art, and mythology.

"Do you want your sculpture to be abstract, symbolic, or realistic?" I asked, giving them clay to create models of their concepts. At this point I was working with two core groups, each composed of fifteen 6th, 7th, and 8th graders. Several students elected to work individually while some worked together as design teams. The process was both noisy and hectic as these lively kids struggled to develop their ideas while meeting our design criteria: Would the sculpture be thought provoking and inspiring to the viewer? Would it be both safe and sturdy, since kindergarteners would be in the area? Would the materials be too expensive?

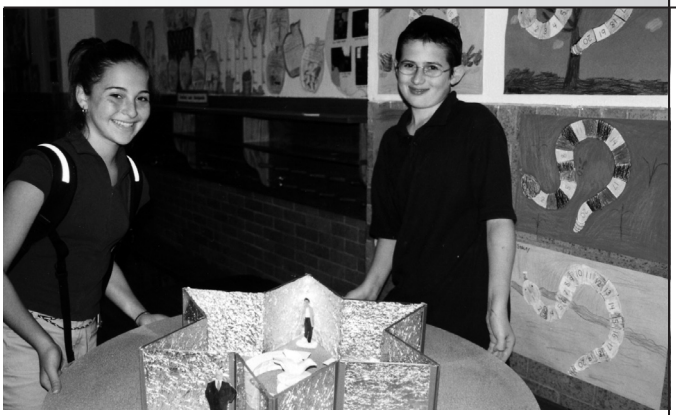
I moved from one emerging design to another as the cacophony of questions arose.

"Miss Elena, the wings of my dove keep falling off! How do I make them stay on?"

"Miss Elena, we want ours to look like flames, but abstract. Can we use paper instead?"

"Miss Elena, I can't even draw … how am I supposed to do this?"

At the end of ten days, we displayed 15 models, each accompanied by an "Artist's Statement" to the faculty and the rest of the student body, just as if we were making an



Stacy Horvitz and Sam Shulkin present the model for Grandparents Day at Community Day School, Fall 2002.

Note: Rights to model provided by Elena Hiatt Houlihan. Model constructed by students under her supervision.

Elena Hiatt Houlihan

architectural presentation. My core-group students, the faculty, and the administration rated the models, and we decided to use the top two as the basis for the final sculpture. The design would be of a three-dimensional Star of David with a phoenix in the center as a sign of hope.

But, how would we build it? I had envisioned using a castable material into which we would mix the pop tabs. During our discussions of materials, I invited a consultant to describe the properties of acrylics and concrete to the students. Though we loved the transparency of acrylic, we learned that it yellows in the sun and is easily scratched. Other advanced epoxy-type plastics were both highly toxic and expensive. The consultant recommended a polymer-based concrete. Though I knew that making the molds would be complex, I thought concrete was the obvious choice.

But, no one was enthusiastic about incorporating the pop tabs into a gray monolithic concrete monument.

"We wouldn't even see them, Miss Elena … except for a few on the edges!"

We left school for the summer with the materials problem still unsolved.

Continuing my research, I learned that Pittsburgh Corning manufactured glass blocks in the form of banks with a slot in the top, into which kids could put money. *Aha!!* What about using the banks for pop tabs? Though there were still construction issues to solve, at least we would be able to see the pop tabs through the glass block.

Late in the summer the administration asked me to prepare a budget estimating the construction costs of the sculpture. I protested that we did not know the final size and had not spoken with any contractors. Since they wanted to apply for foundation support, they needed some numbers. I did my best, but knew that the total of $26,000 was more of a "guesstimate" than an accurate budget. Using that number, however, the director applied for a grant from the Charles Morris Trust.

In October 2002, I began a 30-day residency partially funded by the Pennsylvania Council on the Arts in partnership with the Pittsburgh Center for the Arts. With a smaller group of 12 students, we measured the selected location on the front lawn of the school, deciding that the finished sculpture would be 25 feet in diameter. We then began constructing a more sophisticated model of the chosen design, a three-dimensional Star of David

exactly to a scale of 1" = 1'. We used Plexiglas for the walls of the sculpture and crumpled aluminum foil as the inside layer to give the appearance of the pop tabs. For the interior meditation area several students worked on making miniature benches and a dove to symbolize peace.

I couldn't believe how complicated this project had become, but we had come too far to give up.

The students and I began calculating how many blocks it would take to construct our sculpture. At that point the walls of the Star of David were 6' high and 6' wide. Corning lent us an 8" x 8" x 3" glass block bank, and counting carefully, we filled it with pop tabs. Further consultations with Corning indicated that we should use 12" glass blocks because they were 4" thick—much sturdier for a large construction. Though Corning had never made glass banks in the 12" size, they agreed to custom-make 800 of them after the administrative committee decided that glass block would be the most feasible material to use for the sculpture.

Our optimism and enthusiasm were rewarded when we were notified that we had received a grant for $30,000 from the Charles Morris Trust in Pittsburgh. Those funds covered our initial block order and a stipend for the extra time I was spending on organization and research, with some left over to begin construction.

Our first shipment of 400 blocks arrived in February 2003. The students and I began filling a "test block" to see how many pop tabs it would hold. We all took turns, counting out tabs by the hundred and putting them in the slot.

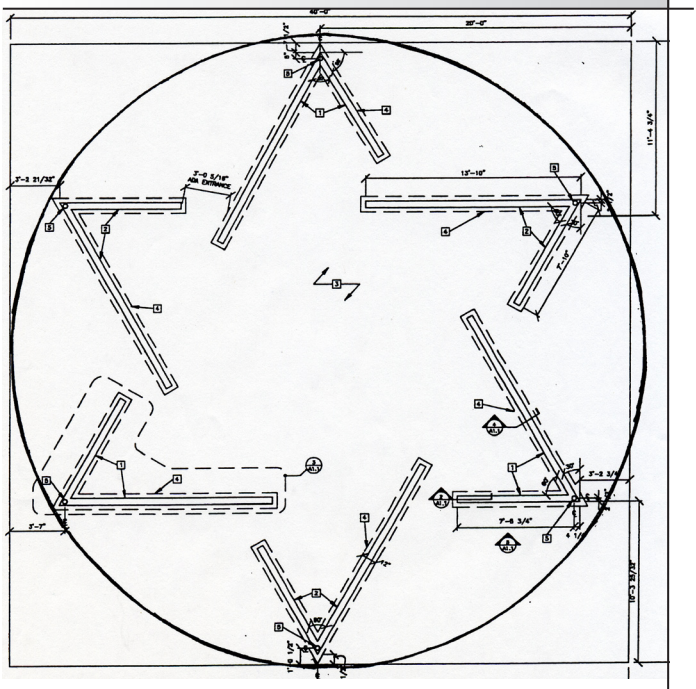
The cries rang out in the cafeteria where we were working:

"Miss Elena! Look how small the slot is! We can't get these bent ones in!"

"Okay, somebody go get a hammer from the maintenance department."

"Miss Elena! This is gonna take forever … can't we make this slot bigger?"

Loud pounding filled the room as some students hammered the bent tabs, while others took turns putting them into the slot. They were still filling the block when I had to leave, and it took



Aerial view of final sculpture design prepared by Alan Dunn, architect.

over 5 hours to fill that first block with 6,200 pop tabs.

We were all stunned at this news. The principal frowned as he tried to do the math.

"Elena, at this rate, even if you can put in one pop tab per second, it will take … this is impossible! We have 800 blocks! This will take years! Can't we make the slot bigger?"

I researched the possibility thoroughly. No, we could not make the slot larger. It had been hand-formed while the blocks were still red hot and drilling or cutting it out would stress the block, causing cracking or breaking.

At 25' in diameter, our design was going to use 768 blocks with the extras for possible breakage. I admitted that at 5 hours per block it would take almost 4,000 "person-hours" to fill the blocks, and at 6,200 tabs per block the sculpture would not even hold the total of 6 million. By that point I was envisioning a hollow glass block column in the center of the sculpture into which we would pour the remaining 1,238,000 or so pop tabs. I couldn't believe how complicated this project had become, but we had come too far to give up.

Just because the school had approved the design didn't mean the city had.

There was no way around it: We were just going to have to buck up to the task of inserting the tabs into the blocks as they were. One of my artistic Jewish friends said, "If the Jews suffered for years in the camps, the least we can do is take a few hours to remember them!"

Midway through the design process I had begun consulting Alan Dunn, an architect whose son attended the Community Day School. When he realized that the sculpture design proposed by the students would not incorporate all the tabs in the blocks, he suggested modifications. He made the walls higher, and suggested that we consider an asymmetrical Star of David, with one wall of each point being longer than the other. This gave us an open entry space at the inside of each point while raising the number of blocks to 960, which would then include all 6 million tabs. The diameter was now increased to 42' across with the walls alternating at 7' and 9' high. I did not want to alter the design without the students' approval, so in the spring of 2003, Alan and I presented the new drawings to both the students and the administration, and they voted to accept the changes.

But just because the school had approved the design didn't mean the city had. As a lesson in bureaucratic procedure, I took three of the students to the Design Review Committee of the City Planning Department. We were stymied in getting our model through the turnstile; and our glass block filled with pop tabs had to bypass the metal detector at the security checkpoint. After wrestling the model into the elevator, we soberly presented the facts and drawings to the Design Committee. Upon learning that our memorial would not have a sign or advertising of any kind, they wholeheartedly approved our project.

By this time, the students and I had been brainstorming about ways to recruit help in filling the blocks. With about 296 students in the school, representing 216 families, even if each family filled one, we would still need assistance. So, we announced our "Adopt-a-Block" program in the school paper. Since an empty block weighed 16 pounds and our filled block weighed 20 pounds, we began making bags of pop tabs that weighed slightly over 4 pounds to give out with the empty blocks.

On June 8, 2003, we held our first "Pop-Tab-a-Thon" in the school meeting room. About 40 people from grandparents to toddlers attended and filled blocks, while students handed out blocks at the drive-through in the back. Several people took up the challenge and competed to see how fast they could fill a block, creating a new record of 2 hours and 10 minutes.

During the summer, I interviewed contractors and delivered architectural specifications developed by Alan Dunn. In August 2003, I presented a revised budget of nearly $100,000 to the administrative committee. This, too, was a shock. None of us realized how complex the actual construction would be.

In March and April 2004, I began several work sessions with the students. Since we had never completely organized the logistics of how and where to store the blocks, both filled and unfilled, they were now amassed in stacks in the back entryway, by the front door and in the school office. Some blocks even needed more pop tabs. After sorting, we carried the "OK" blocks to a designated area in the basement, where they now share space with the lawnmowers, old chairs, and—guess what—our last shipment of empty blocks!

If our count is accurate, we now have about 600 of the blocks filled with pop tabs. There are 60 still unaccounted for, probably half-finished in people's homes, waiting to be returned. So, we are nearly two-thirds done with our task of filling the 960 blocks. Not bad for a year's work, I think.

In April 2004, with donated labor from Pittsburgh Glass Block, we watched as a "test wall" of nine blocks was built outside the front entry to the school. Appropriately, the construction coincided with Yom Hashoa, Holocaust Remembrance Day, and the two-year anniversary of my first presentation at the school. We will observe the effects of a Pennsylvania winter on the glass block, while the wall serves as a symbol during our upcoming fund-raising campaign.

Though they have participated in many activities outside the normal school curriculum, it is difficult to assess what the students have learned as a result of the sculpture design process. Several of them wrote essays in the spring of 2003, but they were later lost. Still, having worked with some of the students for 3 years, I continue to talk with them even though they are now in high school. Some of their comments are:

> **Drew:** I learned how to make models and more about the Holocaust too. Figuring out how many pop tabs each block held, and how large the sculpture would be helped with math skills. But I felt my problem-solving skills developed more than my creativity.

Architect's rendition of Proposed Holocaust Memorial Sculpture, 2004. Alan Dunn, architect. Architectural consultation and renderings contributed by Alan Dunn.

Margalit: It was annoying to put the pop tabs in such a narrow slot in the blocks, but in the end it made you think about the number of people who died in the Holocaust. Everyone worked on it. It was really nice that we could do something as a community.

Ricky: I learned what is needed to choose a site and how to use different materials, since there are different ways to build a sculpture. Some would require a mold. Then, you have to do testing of products, like the frost test, to see if they will withstand harsh winters. Dealing with committees can take time away from completing the project and elongate the time it takes to finish.

Emily: I don't care that the sculpture is unfinished because that means that other people can work on it. I learned how to work in a group better and that it takes a long time. I learned all about how much red tape there is to build a sculpture … and some of the processes, especially when we took the model to get city approval. This was real life. It wasn't like sitting around in class and theorizing about what problems we would have, because they were there.

It has been a curious year. Though I had hoped we would immediately launch into a fund drive for the sculpture last fall, a major reorganization of the school and the Jewish Education Institute has been a higher priority. The Community Day School has become an independent school and has a new board of directors as well as a new principal. An enlarged campaign committee met this summer and decided to raise money for educating visitors about the Holocaust, as well as building the actual sculpture. The fund-raising goal is now $250,000.

There will be a lull before heightened activity begins this fall. We are aiming for a groundbreaking on Yom Hashoah in April 2005, the 60th anniversary of the Holocaust. We have about 350 blocks still to fill, and a huge fund-raising campaign to begin. So, for a time, I will be haunted by pop tabs and their numbers looming over me: 6,000,000 pop tabs, weighing approximately 2,600 pounds, taking up 255 cubic feet, which must be inserted by hand into 960 glass blocks, and built into a sculpture 42' in diameter, costing approximately $120,000. Both as a Teaching Artist and as a sculptor, this has been my most daunting project. I have learned more than the students about materials, construction, consensus building—and above all—about living with the unknown.

Since l988, **Elena Hiatt Houlihan** has conducted over 100 Artist-in-Residency projects through state arts councils in Pennsylvania, Indiana, and Delaware. Major developers have commissioned her large-scale sculptures for public spaces throughout the country through her studio, Moving Images. Her assemblages using recyclables have been exhibited in major art centers and museum shows.