

# UC Santa Cruz

## Cultivating A Movement

### Title

Erika Perloff: Director of Educational Programs, Life Lab Science Program

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# Erika Perloff



Photo by Marianna Keel

## Director of Educational Programs, Life Lab Science Program

*Erika Perloff directs educational programs for the Life Lab Science Program, a nationally recognized, award-winning nonprofit science and environmental organization located on the UC Santa Cruz campus. Founded in 1979, Life Lab helps schools develop gardens and implement curricula to enhance students' learning about science, math, and the natural world. The program has trained tens of thousands of educators in more than 1400 schools across the country.*

*Life Lab's specialized projects include LASERS (Language Acquisition in Science Education for Rural Schools), now renamed the Monterey Bay Science Project, which trains teachers to teach language development through scientific exploration. The organization's Waste Free Schools program helps teachers and students reduce school waste through conservation. Its model Garden Classroom, located at UCSC's Center for Agroecology and Sustainable Food Systems, is used for teacher training and school field trips and events.*

*Perloff's interest in garden-based science education began with a love of natural history. As a college student, she transferred from Carlton College in Minnesota to UC Santa Cruz, where she double-majored in environmental studies and biology. Among her formative educational experiences was UCSC's celebrated Natural History Field Quarter. After graduating in 1983, she worked in outdoor education jobs for the National Park Service, the Yosemite Institute, and the Headlands Institute in Marin County. Eventually, desiring more sustained contact with students, she earned a teaching credential at UC Berkeley's Graduate School of Education.*

*While working as an elementary science specialist in Watsonville and Santa Cruz, Perloff took a Life Lab teacher training, which inspired her to revive an old garden patch at her school. "There was nothing as exciting," she said in this interview, "as walking into the classroom and the kids would see my keys for the garden, and they would just jump up and down and say, "El jardín! El jardín!"*

*Perloff began leading Life Lab teacher workshops herself on weekends, and soon was flying around the U.S., funded by a Department of Education program called the National Diffusion Network, to train Life Lab teachers in other states. She joined the Life Lab board of directors, and in 1990 accepted the job of education coordinator.*

*In this interview, conducted by Sarah Rabkin at the UCSC Science and Engineering Library on July 9<sup>th</sup>, 2008, Erika Perloff described the colorful variety of projects and initiatives that have occupied her attention at Life Lab. She also reflected on the national impact of the program, and its possibilities for the future.*

### Additional Resources

Life Lab Science Program: <http://www.lifelab.org/>

Erika Perloff Fine Art: <http://erikaperloff.com/>

Blog about Life Lab's History: <http://lifelabhistory.blogspot.com/2009/01/share-your-life-lab-story.html>

Roberta Jaffe and Gary Appel, *The Growing Classroom Garden-Based Science and Nutrition Activity Guide* (Revised Edition 2007) <http://www.lifelab.org/store-curricula.html#tgc>

## Beginnings

**Rabkin:** So it is Wednesday, July 9<sup>th</sup>, 2008, and this is Sarah Rabkin. I'm with Erika Perloff at UCSC, and we're going to talk about Life Lab. So, Erika, I'm going to start by asking you some personal background. Where and when were you born?

**Perloff:** I was born in 1959 in San Francisco, on December 31<sup>st</sup>, the last day of the fifties.

**Rabkin:** Wow. And where did you grow up?

**Perloff:** I grew up mostly in Marin County—well, almost entirely in Marin County. I spent a year living in Peru when I was very young and my parents were down there on a Project Hope mission, the hospital ship, but otherwise lived in Mill Valley and Sausalito.

**Rabkin:** And where did you go to school?

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**Perloff:** For college, I went to Carlton College in Minnesota for a year, and then rapidly decided that the Midwest in winter was not for me, and transferred to UCSC. I finished UCSC around '83 and went on to the Graduate School of Education at Berkeley, where I got my teaching credential.

**Rabkin:** What did you major in at UCSC?

**Perloff:** Environmental studies and biology. So I was a double major.

**Rabkin:** And did you have any other important educational training or mentoring experiences?

**Perloff:** Well, my focus at UCSC was natural history. The Natural History pathway involved exploring the flora and fauna of California in great detail: mammals, birds, plants, the field quarter program.<sup>1</sup> So that was very important to me. I also did some art classes on the side. It wasn't even enough to be a minor, but I always have been interested in art, so focused a little bit on that in college.

**Rabkin:** And you went straight from UCSC to the Berkeley graduate program in education?

**Perloff:** No. I left UCSC and continued work I'd been doing in outdoor education. So worked from '84 through '86 or '87 with Yosemite Institute and Headlands Institute in Marin, and a number of different outdoor camps that I worked at in the summer, and I worked for the Park Service as a ranger in Tuolumne Meadows doing interpretation. That was my whole other track. And then came back to teaching, and got my credential, and student-taught and did

all that, and ended up back in Santa Cruz teaching school, which is what led me to Life Lab in the beginning.

## Teaching

**Rabkin:** What got you interested in classroom education in the first place?

**Perloff:** Well, I had been teaching about the environment in outdoor ed. It was a very heavy academic focus, the kind of work I was doing. And I loved kids; I loved being around kids. I'd done some work at UCSC in the education department. I took some of the intro classes and did an internship at Gault School. I think that I had a feeling that (with Outdoor Education) just seeing kids for one week and then letting them go wasn't enough, and that I wanted to go deeper and work more thoroughly with one group of kids, rather than just get to know them and they leave on the bus. And it was somehow not fully satisfying. Even though I really enjoyed my work in outdoor ed, there was definitely that feeling sometimes where you wanted kids to stick around, especially the ones who really were "getting it."

Also, the reality was that working as a seasonal ranger or as an outdoor ed employee was not very sustainable financially. Teaching seemed like a good bet. You could get a job anywhere and it made you very flexible. I figured if nothing else, it would be a good learning experience.

**Rabkin:** And what kind of school did you teach in?

**Perloff:** I did my student teaching in schools in Oakland and Alameda. They were very impoverished inner-city schools. Then I started out teaching in

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Watsonville. I was a science specialist for kindergarten through fifth grade in a very small rural school in Watsonville. I did that for a few years, and then I taught right here in Santa Cruz, at Westlake School, which is a very different kind of school, much higher-in-economic-scale students.

While I was teaching at the first school, at Hall [District Elementary School], I was introduced to Life Lab and to the courses for teachers. I took the introductory course from Lisa Glick, and learned how to build a compost pile and create a school garden. I got very excited, and revived an old patch at Hall District School, which actually turned out to be a huge garden in the end. We ended up building a large school garden. There was nothing as exciting as walking into the classroom and the kids would see my keys for the garden, and they would just jump up and down and say, “*El jardín! El jardín!*” They got to go outside. They were in that garden constantly—before school, at recess, at lunch, after school. It was so exciting to see them bond with the concept that they could grow things, and that they could make something come out of the soil. It was really delightful. So I got excited about it there. While I was still down there, I started teaching workshops for Life Lab on the weekends, moonlighting as a Life Lab instructor.

**Rabkin:** For students or for other teachers?

**Perloff:** For teachers. This was at the time when the National Diffusion Network, which was a program of the Department of Ed, had anointed certain projects around the country as examples of excellence that they wanted to reproduce in other places. So they had, in every state, a state facilitator whose job it was to

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bring these programs to schools throughout their state. So Life Lab (and this was during the eighties and early nineties) was sent to states all over the country, everywhere from Alaska to Florida, criss-crossing the country. We were paid to fly out there and teach two, three, four workshops to teachers, and get this program out there. It was a really exciting time. They were desperate for more people at Life Lab to help make this happen, and so we went everywhere and started a lot of school gardens. I was just novice as can be. I mean, I had my teaching experience and felt okay talking to a group of people, but I was plunked down in South Carolina and given two days to get these teachers going and get their garden started, and give them the background. It was a lot of fun. I got to see a lot of the country and learned a tremendous amount doing that.

Shortly after that, I was invited to be on the board at Life Lab. I sat on the board as a teacher-member. I don't know how much I contributed, but it was a good experience. Then when I moved to Westlake, we started a small garden there, too. Kind of was in the trenches. I'd only spent a year at Westlake, and was really questioning whether I wanted to stay indoors in the classroom for the rest of my career. At that time, I wandered up to Life Lab, which was at the [UCSC] Farm at that point. It had moved up to the Farm with these beautiful offices that overlooked the ocean. Lisa Glick sat me down and said, "So what are you thinking about teaching?" I was in the middle of doing grades. She offered me a job and asked if I wanted to work being the education coordinator. I thought, well, I could do that for a year and see how I like it. So I took a leave of absence for a year.



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## Coming to Work at Life Lab

**Rabkin:** When was that?

**Perloff:** That was in 1990.

**Rabkin:** And you stayed?

**Perloff:** Stayed for about seventeen years, [with] a few exits to go have children. [Laughs.] And then I came back. And wore different hats throughout that time.

**Rabkin:** What were the different hats that you wore?

**Perloff:** Well, I started out as education coordinator, which was a very vague title. Actually, pretty much every title at Life Lab is very vague. Working for a nonprofit, you do a little bit of everything, as needed. But mostly what I was doing was organizing the workshops and then leading most of them, or many of them, or coordinating other people to lead them, and everything from packing the boxes, to designing the curriculum and connecting with the principals and the teachers at these different schools.

**Rabkin:** Again, these are workshops for teachers.

**Perloff:** These are all workshops for teachers. By that time, we had more than one workshop. Originally we just had this workshop called the Growing Classroom, which was designed to get teachers familiar with the concept of a school garden, help them to design their own school garden in the beginning stages, and give them the tools they needed to be successful. And then later, Life Lab developed the Life Lab Science Program Curriculum, which was a much

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more in-depth curriculum that had a different book for kindergarten through fifth grade. It even came with a laser disc. That was the height of technology, and we had schools all over the country using this laser disc. So kids could watch a bee pollinate a flower and that kind of thing. Those lasted about a year, I think, those machines [chuckles], until something new came in. That was a more in-depth workshop. So I started doing those.

I didn't mention this before, but I had been a field-test teacher for the development of the curriculum. I worked with one of the writers at Life Lab who was writing the fifth-grade curriculum, and we tried it out on my class and tried some of the sample lessons, which was really interesting. Some of them worked, and some of them didn't at all. But it was part of building confidence in the curriculum so that teachers know that it's been thoroughly tested.

So then later, when the LASERS program was developed, which was Language Acquisition and Science Education for Rural Schools, that brought in this curriculum, the Life Lab Science Curriculum, that basically was an NSF [National Science Foundation] grant that used it in schools in Watsonville all the way down, I think, to King City. And then there were also teachers in one portion of that program from— I guess maybe those were the field-test teachers, but they were still considered LASERS teachers. They were from Florida, and we had some in the middle of the country, and New York and Alaska. We had teachers from all over. And that morphed into this LASERS program, where we gave ongoing professional development to teachers in the greater Santa Cruz area down to, like, San Benito [County].

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That program was all focused around the garden. There was this theme of sustainable education and sustainable agriculture that wove through it, but the real focus was teaching more science to kids and getting kids to acquire language as they learn science, using that as a vehicle to do ESL [English as a Second Language] and to do SSL [Spanish as a Second Language] also, actually.

I also want to mention that over the years, Life Lab participated in many special projects, each with individual grant funding. These projects included everything from establishing school gardens in the Caribbean, on the island of Dominica, to helping to develop an after school gardening program in the Beach Flats neighborhood here in Santa Cruz. We worked with teachers from South America to recreate the workshop in Spanish. We consulted with many organizations to help them develop programs, everything from kids' museums to programs for disabled children. One of the great aspects about working there was that you never knew what kind of a phone call you would receive on a given day, and what kind of projects it might lead to.

### **Developing the Children's Garden**

Anyway, other hats. Later on, as those programs were developing, I got involved, or I came back from one of my maternity leaves to help develop the children's garden at Life Lab. It was kind of a new position that was created with some funding from the Packard Foundation. The vision was that we would create this garden that could be a demonstration site for teachers, and could be a place where children could come from local schools; community groups could come. It was this multifaceted spot that would be, like, Life Lab world

headquarters, and also be a test ground for our ideas, and also a place for the community members to come and enjoy themselves and learn about sustainable ag through having their own backyard garden, or get excited about building a school garden. It was sort of like a model garden. A teacher could come there and say, “Oh, I want this in my school,” or a principal or a team of parents or something.

So we started working on that in, maybe 1989? That was a really wonderful and exciting and creative time, and I was so happy to have been a part of it. We traveled around the country, looking at other gardens, Gail [Harlamoff]<sup>2</sup> and I. We just sort of cut and pasted our favorite ideas from different gardens and tried to figure out: How can we create a site that gets these different concepts across? What are we trying to teach kids? How are they going to learn it? How is that going to work seasonally here? How could that be translated into their gardens back home? How can we create displays or exhibits that are cost effective that aren't prohibitive for schools, that won't break when kids jump on them and pull on them and everything else, and that really get the message across? We had a great deal of fun in the creative stages. We got school kids involved.

**Rabkin:** How so?

**Perloff:** Well, we invited classes of kids specifically from Pacific Elementary School because we had a relationship with them, but also from other schools, since there were already kids coming up there for the regular farm tours, which was more a part of the Farm program. The Center for Agroecology [& Sustainable Food Systems] had been running those tours with docents. John

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Fisher was involved in that. Anyway, we got these kids involved in designing dream gardens, and asked them to come up with their ideas for what they would want in an educational garden. They came up with every wacky idea on the planet, and they were wonderful. And some of them we actually used and tried to incorporate into the garden.

**Rabkin:** Can you give me any examples of kids' ideas that you used?

**Perloff:** Yes. There were repeating themes in a lot of their gardens. Certainly color and things to eat were in all of them. They all wanted to be able to consume everything in sight, so we put in tons of seasonal fresh fruits and vegetables so that there could always be *something* that was ripe for the picking. Another theme that we saw repeated was hiding places, lots of little secret spots, which wasn't so much educational as whimsical. So we tried to bring in their ideas of whimsy—little bridges that crossed from here to there, and animals, and we brought in the chickens, and trees to climb, although we sort of discourage that now because of liability. But we put in weeping mulberries so there would be a place to hide. And ponds, lots of water. A lot of them wanted big lakes and ponds. One kid had designed this garden that was a map of the world. Different kinds of foods were growing, but the beds were shaped like the continents, and in between there was water. I wish we could have used all their ideas. I mean, you know, some of them were, like, skate parks that had a few plants in them, but [laughs] —

**Rabkin:** [Laughs.]

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**Perloff:** But for the most part, they were super creative. They had ideas like the underground gopher-viewing chamber. Stuff like that.

**Rabkin:** Cool.

**Perloff:** So we put in root-viewing chambers. We would have liked to have done the gopher thing, but we haven't quite worked that out yet. [Chuckles.]

**Rabkin:** I guess you'd have to be able to contain the gophers.

**Perloff:** Exactly. Yes, you have to contain them, which the Farm would be thrilled about, if we could figure out a way to contain them. I'm trying to think of some other ideas that were used. Well, sundials and stepping stones and more game-like places where you could make music and things like that. We did weave those through the garden.

We learned a lot in our travels, going to see what was being done in other places. And what we saw was that many of these big botanic gardens, who are putting in children's gardens—really the theme was play, and maybe you learned something about plants along the way. They had, for example, big Plexiglas roots of trees that you could slide down and that kind of thing, or spin the carrot and go from here to there, and find the answer to this question. A lot of it was about the exhibit itself, and about pushing buttons. We watched kids running through these gardens, pressing buttons. There was one garden that had this giant Plexiglas butterfly. The kids were all looking at the giant Plexiglas butterfly while behind them all these real butterflies were feeding on the asters. We recognized that we didn't want to do that. We wanted it to be more about

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actually interacting with the plants, with the animals, with the insects, and doing something real.

So there was a huge evolution along the way as we designed that garden. We had many ideas that we scrapped, many new ideas that came to us, many that weren't financially feasible. We really looked at: What is that we want parents, teachers, kids to take away from this place? We knew we wanted them to understand how plants related to animals; how people and plants have interacted; how plants respond to weather and climate; how they're part of an ecosystem; the delight and beauty you can get from plants. So we took all these ideas and incorporated them into our original sketches, and then we worked with a landscape architect, Joni [L.] Janecki, to do the drawings for us. There were many, many, many stages and evolutions of that, and changing what space we could actually use. You know how that is. And working with the university, which was sometimes wonderful and sometimes a challenge. And cost prohibitiveness and that kind of thing.

### **Developing Life Lab Workshops**

Along the way, though, we really tried to focus on our programming. What are we going to be doing in this site? We envisioned these classes for kids that would focus on sustainable agriculture—and knowing that some of these kids we'd only have for a day, and what can you do in a day, and what can you do in a week? We had it in mind that we would continue on with the Farm's summer camp program, Wildlands and Watering Cans, which was the original summer camp, which was actually a project of Sarah Young's. She did that as, I think, an

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internship or something long ago and started the original one. But then all those people kind of left and shifted, so we had to revive some of the things she'd done, and then add our own.

What really strikes me is that how it's all evolved is that (and I'm just kind of trying to formulate this idea in my head right now, as I speak) the most important thing for those kids out there is that as they're interacting with the garden, with the Farm, they're having fun. So a lot of our lofty ideas about experiments and projects and connecting it to language and all these things, although they're still there, I think the emphasis, and especially the emphasis that is brought by the student interns that actually lead a lot of the—I don't really like to call them tours, but field trips and the camps and things—is really about having fun, about singing about worms and eating everything in sight, and making funny faces in the food that you make, and making it colorful, and picking a leaf and rolling it up with rice and something else, and making your own burrito. But it's that *you* did it. You picked it; you had fun doing it. You ran around and played the tractor game in between.

How much quantifiable learning there is, is maybe hard to judge, but the kids go away having had an amazing time, for the most part. I mean, there's always a couple of kids who don't want to get dirty. Even by the end of the week, you're barely able to get them excited about tasting something or eating something. But so much of it is about those interactions. I think partly that's because a lot of these kids just don't have those opportunities like they used to a hundred years ago. They're not out in the garden, tasting things. They're not digging around in



the dirt. They're in such sterile environments. So they come out here, and it's a complete release.

**Rabkin:** So that ended up seeming more important than trying to get across particular concepts?

**Perloff:** I think that that ended up feeling more important for most of the staff. Maybe it was because of the particular people that were working there at the time. Even the teachers, when they bring their kids, it seems like they just want their kids to relax and have fun and get to know something, and get their feet wet. We got more resistance, almost, when we tried to do really quantifiable experiments. Especially—you know, we work with a lot of second-language learners and— It just seemed to evolve. Life Lab still offers a fall field trip that's all about food and eating and sustainable agriculture, and a series of spring field trips that are more structured, grade-level wise, to meet the science standards, which is a whole other layer that came into education, in a good way—the idea that teachers should be responsible for their students learning a certain set area, focusing on certain set areas of knowledge. The standards, in my opinion, were a mile wide and an inch deep, but it did give us a road map and helped us work with schools more effectively.

Anyway, we developed this series of workshops that were standards-based for the different grades. I thought they were very good, and we got a very good response from them. But everybody's favorite field trips are the field trips where you just get to run around and eat everything, and make stuff, and harvest, and press apple juice and really have the feeling. Really, that's how kids remember

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things the most and learn things the most. They might have learned more at those workshops where there wasn't a big standards focus, and it was more about connecting and having that experience.

**Rabkin:** Did you ever run into criticism or resistance from educational authorities, or officials, or even parents, say, who wanted you to be doing more formal kinds of education?

**Perloff:** Working with all the different schools that I worked with, I would hear from teachers, "We have parents who want to know why their kid is out working in the garden." Often, a lot of times, from farm worker families. They did not want their students to be bending over a lettuce patch the rest of their life, and for good reason. Trying to bridge those concerns was a challenge. And I remember in the LASERS program, when we worked with a lot of schools down in the Salinas Valley and Watsonville, with all the schools we worked with, we would have them do family science nights, where the teachers and the students would invite the parents to come see what they were doing, what they were learning. Especially with the LASERS program, using the Life Lab science, there were such clear scientific, academic goals involved in each unit that was taught. In some ways it was almost hard for the teachers to remember to take the kids out to the garden. The garden was sort of the foundation, but then they'd get caught up in doing experiments and things, and forget about connecting it back to the garden. I think that really helped allay the fears a little bit, of parents, and definitely the principals. Usually when they got out and saw what was happening, they got interested and excited. There was always a few people who kind of pooh-poohed it. And I have to say, being a parent now myself, and

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having watched my kids go through six years (or seven years, if you count kindergarten) of Life Lab, it's very important that it be taught in increasingly more developmentally appropriate ways so that they're not just weeding and looking at worms through sixth grade. There's a lot that they can be doing and getting involved in.

**Rabkin:** Is that where the published curriculum can help?

**Perloff:** Definitely, especially the Life Lab Science Curriculum. The Growing Classroom Curriculum is designed for second through sixth grade, but it's a kind of one size fits all, and you pick and choose. If you pick and choose your favorite lessons each year and they're the same ones, then the kids are going to be doing the same things over and over. The last thing you want is for them to start dreading going to the garden. That never happened with my kids. They always liked that time because they could always be happy just tending to some vegetables, and that got them out of more formal sitting at a desk. But I think that's really important, that teachers work together as a school, and make sure that it's a continuum and not—we're just weeding and watering it.

Definitely there were teachers I worked with over the years who looked at it almost like just kind of a fun, recess-y time, where they got to let their hair down and get out and be with the kids, and how much they learned was not as critical. They might refer back to something they'd seen in the garden. But they weren't doing active experiments. They were mostly just growing vegetables and flowers. And sometimes it looked like the teachers were growing the vegetables and the flowers. So you'd come, and everything would be in these perfect little

rows, and the teachers would be talking about, “Well, today, kids, we’re going to plant pansies and we’re going to do this,” and the kids had nothing to do with the selection.

Really, the focus in the very first Life Lab school out at Green Acres<sup>3</sup> was—this was a curriculum designed for kids, by kids, and that the kids took the thinking to the next direction. So if a child got excited about sprouting something and then wanted to sprout ten other kinds of things, that’s what you would do. There was the freedom to do that back then, which was really great. You would let the kids’ ideas inspire your directions. The curriculum was really just a stepping stone. The learning came from them, and they were so empowered about actually doing these experiments and trying different things, because it all came from their ideas.

## Teaching Science

**Rabkin:** You suggested that there’s less freedom to do such things now. Is that because of the science frameworks in the state curriculum?

**Perloff:** I don’t even think it’s because of the science frameworks. I think most teachers don’t even have time to concentrate on the science framework because they are so busy trying to keep up with the language arts and math frameworks. Many, many teachers I’ve talked to in schools I’ve worked with say they barely are lucky if they get science in once a week. That’s very typical now. I mean, it’s really a travesty because these kids could be reading about science; they could be doing math about science; they could be connecting it all together. And the teachers aren’t given that liberty in many schools. There are so many schools

where you have to have, written on the chalkboard—excuse me, the white board—

**Rabkin:** [Chuckles.]

**Perloff:** —or, more likely, the digital white board [chuckles], at any time, what lesson you are teaching and what are the learning goals. They better be language arts or math if it's before twelve o'clock, because science is often reserved for the afternoon, when the kids' best thinking of the day is out of the way. They're required to be teaching math and language arts and maybe a little social studies before lunch. So asking a teacher to be prepared to pull out random materials to do an activity or an experiment that a kid thinks of, is very challenging. There are some teachers who are very open to those kinds of things and will just sort of shut their door and quietly go on teaching whatever they want to teach, but it seems like their hands are more and more tied by the standards. Some schools, they're paying them extra if their kids pass the tests with a certain percentage, and they're very pressured to make sure all those things get through to them.

**Rabkin:** Are there not science tests that the kids have to take, too?

**Perloff:** There now are, and in certain grades (I believe it's fifth, and I want to say seventh or eighth) they're testing them in science. Some schools aren't even doing it, though. It seems like they're finding ways around it. And definitely when the science test came around, suddenly we're getting a lot of phone calls. But it wasn't so many calls of, "You want to come teach a workshop about Life Lab?" It was more, "How can you help our kids pass the test?" It was more about memorizing facts and knowing the periodic table and that kind of stuff.

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And, of course, if all that was done in the garden or in some— It doesn't even have to be the garden. It could be they're out stargazing, or they're down in the tide pools—they're in some real, live situation rather than just studying in the book—of course, it would all make so much more sense to the kids, and come alive.

But I have to say that my attitude has changed a little bit in what teachers are capable of. I used to really strongly believe that anybody could teach science, and it was really just a matter of having an open mind and learning along with the students and not trying to know all the facts, but being willing to say, "I don't know the answer to that. Let's see if we can find out. Let's do an experiment." Definitely that was the philosophy that we really tried to convey in all our teacher workshops in Life Lab. It doesn't matter. You don't need to be the expert.

But over the years, in thinking back on it, I do realize that's a lot easier to say when you're a person who comes from a science background, and where you even know what *is* a good experiment. You can teach somebody what is a good experiment, but someone who doesn't know [how to] pre-anticipate some of the problems and some of the things that are going to happen, isn't even going to know sometimes why the experiment didn't work. If they grew their plants and they all got moldy, they may not even be able to figure out why that happened if they don't have enough background knowledge. So it takes somebody who not only has keen interest in knowing, and the excitement about what's going to happen, or what's going to work or not work in our garden, or what's going to grow, but also someone who's willing to make all those mistakes. Because gardening and growing things in general is a huge experiment. I've really

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learned that as a home gardener, I'm still constantly learning things and figuring, oh, yeah, I guess I can't plant those potatoes there the third year in a row because something's happening, they're wilting, or something is not working. I've been in my same garden now for eighteen years so I've gotten to know what does and doesn't work, and watched the evolution. And to just start out in a school with a patch of ground, and you don't even know—are there rodents, are there birds that come, are there soil mites, is the soil even healthy enough to grow anything in? There's so much that you don't know if you don't have the background.

So I'm struggling with that, and wondering how much can you expect of a teacher, given what is called “the controlling circumstances” now. Can we really expect that our classroom teachers, who have maybe not had very much science at all, are going to be able to do a really good job teaching science? I'm starting to think maybe it makes more sense to have specialists teaching science. I don't know. I shy away from that because I love the idea that you can incorporate it back into the other subjects. Really, that was my training, is that everything be integrated. It hurts me to believe that the average teacher can't jump in there and teach science. But there're so many people who have no confidence in themselves, and many, many teachers who believe, “I kill any plant I touch.” If you believe that, it's hard to convey to the students that *they* in fact *can* grow things, even though *you* have a black thumb and don't know anything about science. [Chuckles.]

So I think, partly, maybe it's something in how we train our teachers and how we teach them how to be science-positive, and to use words that excite students and motivate them, even if they don't know a thing about their subject matter.

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Science is complicated. Recently my daughter had to learn the Krebs cycle and the citric acid cycle and all these things about photosynthesis, and I tried to relearn it with her. I was a biology student, and it was still all sort of Greek to me. Really, to try to make that real for kids (and not that you need to know that to teach elementary school science), you kind of need to understand what happens. Otherwise, it seems like it's just sort of magic hocus-pocus. How *do* those plants really grow? And how much of that do kids really need to know? I don't know. I think that's why we kept getting back to. What is the main thing: that the soil can produce these plants; that we can take care of them; that this is where our food comes from; that it tastes good; it tastes better when you grow it yourself. And that there's all these different varieties of things you can grow, and look how the hummingbirds are involved and the bees are involved—sort of the simple, real-life lessons. When it rains too much, your plants might mold. Or, you can't grow a pumpkin in the middle of the winter. Just some of the really basic things.

And frankly, the high-school kids don't know that stuff. They need to start back at the beginning. Because we think, oh, this is going to be way too young for a group. Even teachers. I mean, oftentimes we would do a teacher workshop where teachers would say things like, "Well, how come the chickens can lay eggs without a rooster?" And, "What plants would I plant right now? Could I plant lettuce in the middle of summer? Could I plant squash in the middle of winter?" And they have no idea, because they're not tuned in to the annual cycle of growth. We're quick to think that something so simple and basic— But very few



people, except for those that are actually engaged in farming or gardening, are going to be familiar with these concepts.

**Rabkin:** Interesting. So for a non-science-expert elementary schoolteacher who wants to begin a school garden, or maybe revive one that was started and has fallen fallow, what kinds of resources are available from Life Lab to help them figure out what to do and how to do it?

### Resources Available Through Life Lab

**Perloff:** I would say that the best resource is the newly revived Growing Classroom Curriculum. We did a project with the National Gardening Association, which just culminated about a year ago, to revise it, update it. Because this was the same curriculum we were using that had been written in about 1979, 1980, and it was the original version created on a typewriter. [Laughs.] It still had very funny pictures of kids who were definitely from a different century, [laughs] and some misinformation and some things that we've learned— So anyway, this was revised, with new pictures and new resources. It has a great amount of information about just what to plant, when, how you need to develop your beds, how you get funding, how you work with parents and principals. I was very involved in revising that project. It felt really good to finish that before I left, because I think it was much needed—to have that done and finished and to update those lessons. And, of course, there were a thousand more things we wanted to do to it. But with time and deadlines and everything, we ended up doing what we did, which was a huge improvement. That book is a treasure trove of resources for teachers.

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I think the other resource that's really valuable is the workshop. I've been to many, many teacher conferences where I've picked up materials and picked up books and they sat on my shelf, and I never really saw in action how to put them into effect. I think that going to a workshop, meeting with teachers who have different situations, is really, really valuable. At the workshops, the teachers talk to each other a lot about what they're doing at their school. It's everything from a school that has nothing but a blacktop, to a school that has a two-acre garden and an integrated science program. And they're trying to train new teachers to the program, inner-city schools, rural schools, and seeing what people have done and how they use it and how it's different in every school. There are no two schools that have the exact same model of how they use Life Lab.

I think it's also important to point out that Life Lab is just one of many school gardening programs in existence. I would say it's the most comprehensive one, in terms of having curriculum, teacher training, and staff resources available to help. But there are many schools that are just doing it on their own, that are just starting gardens, and have parents involved. Some use master gardeners. There are other, similar types of programs to Life Lab that go out into schools and help set things up, people who have gotten grants and they bring people in, university students. There's a huge range of schools who are doing some kind of growing, teaching kids about sustainable ag. I like to think Life Lab is the most comprehensive, and the one that's made the biggest difference. I mean, really, when I think about how many schools we worked with over the years—I would love to do follow-up and find out how many of those schools are still up and running. Of course, that would be another grant and another—

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## The Impact of Life Lab Over the Years

**Rabkin:** So that has not yet been done.

**Perloff:** Not officially. Over the years we have received pictures from people, and we've done some surveys, but without a lot of success. We didn't get a lot of information back. One of my hats I used to do was writing the newsletter. We used to have regular contests. Like, if you sent in information about your program, you could win seeds or something. [Laughs.] I don't know what it was. A wheelbarrow, maybe. (That's something I want to come back to later.) That did generate a little bit of information. And we would check in with schools every once in a while, just as part of our marketing: "Do you need any more training?" But honestly, working for a nonprofit, where there's very limited staff and very limited resources, we didn't have the ability to do that kind of thing unless we really went after that and made it a priority, which we never did.

**Rabkin:** Do you have an informal sense, quantitatively, of how many different schools have been exposed to workshops and/or curriculum?

**Perloff:** Well, I think it's just grown exponentially in the last few years because of the whole state initiative for school gardening, which I don't know you've heard about, but—

**Rabkin:** Tell me about it.

**Perloff:** I'm getting my dates fuzzy, but I believe last fall and possibly also the fall before, the state gave out (I'm forgetting the numbers) several million dollars for school gardens, distributed in small grants to schools. It was \$2,500 or up to

\$5,000, depending on the size of the school. They were very easy grants to get. You basically had to fill out some paperwork. It was part of the whole school nutrition, increasing students' access to fresh vegetables program. A huge number of schools got these grants. Life Lab was very involved in getting this to happen, so our information was in everybody's hands. A lot of schools have contacted us through that. The figure that we used to use was that at least 1,500 schools—and this was a long time ago—during the LASERS program we were saying 1,500 schools, but I'm guessing that by now it's more like 3,000 schools around the country that are using the program because of some connection to Life Lab. It may not be that they got training, but they might have purchased the curriculum. Part of the great thing about connecting with the National Gardening Association was that their distribution and marketing was far superior to ours. I don't know how many books they have sold. People having information in their hands is a huge step. We also know that many of the books have been sold to teachers in different countries.

But as far as workshops: We had worked with, like, 1,500 schools that we had actually taught at or given some kind of a presentation at. That was, as I say, many years ago. I'm sure it's really increased now. And now we have this huge field-trip program here at the university, at the Life Lab that's here.

### **The Relationship Between Life Lab and the Center for Agroecology and Sustainable Food Systems [CASFS]**

Something that I think has always confused people is the connection with the university.

**Rabkin:** I'd love you to talk about your relationship both with UCSC and with CASFS [The Center for Agroecology & Sustainable Food Systems].

**Perloff:** Okay. Life Lab used to be located in a windowless office at the County Office of Education. Life Lab moved to the Farm here on campus, I think in about '85, '87, something like that, with the idea that it would be the sort of extension of the CASFS program. But Life Lab always maintained itself as a nonprofit. We were never absorbed into the university. I don't know if that was because we didn't want to be, or because the university didn't want to do that. Things were working well for us as a nonprofit, so we stayed as a nonprofit.

**Rabkin:** And so it was a real-estate relationship, essentially.

**Perloff:** It's a real-estate relationship, exactly. Life Lab bought a trailer and then gave it back to the university. And that houses our offices. It involved the connection between Robbie Jaffe<sup>4</sup>, who was one of the founders of Life Lab, and Steve Gliessman, who was the director of CASFS at the time, so there were all these great opportunities.<sup>5</sup> It made perfect sense. And we've been there ever since. So Life Lab has been a nonprofit all along. But people often think that Life Lab is part of the university. They are always surprised that we don't get our checks from the university. It is a bit confusing.

There's also this confusion between Life Lab "world headquarters," so to speak, and Life Lab at all the different schools. We've even had problems where someone from a school will write a grant and say, "I work for Life Lab." And they don't. They work for the school, and Life Lab is a separate entity. But anyway, that's really not that important. It's maybe good to clarify that the Life

Labs at each school are independent and are run—some by the PTA, some under the direct guidance of the principal, but they all do their own thing. So sometimes somebody will say, “Oh, well, we have a Life Lab at our school.” And you might go and look, and it might have no resemblance to what we think of as a Life Lab garden. But we decided to just let schools call their gardens Life Lab early on, because it was good marketing, but also it was impossible to be going around monitoring schools’ Life Labs to see if they met our criteria, so we didn’t do that.

So the Center for Agroecology coexisted with Life Lab. Or we coexisted with them, I should say, because they were sort of the bigger entity. And really just had a very small little patch that we called our own, that was sort of a couple of beds that we used for workshops. The plan had always been to develop some sort of a model garden. That was part of our mission when we came to the Farm, apparently. And then we worked with CASFS to get the grant from Packard to really make it happen. That was the first time that Life Lab and CASFS really came together on a project. Before that, we had just sort of coexisted; occasionally we’d get some compost from the Farm, do something like that. But really, we barely knew the people at CASFS. We stayed in our offices, and they stayed in theirs.

**Rabkin:** You had mentioned that before Life Lab was doing it, CASFS was actually running some kind of summer camp program—

**Perloff:** They had a youth program.

**Rabkin:** —the Wildlands and Watering Cans program.

**Perloff:** Yes, and it was more or less separate from Life Lab.

**Rabkin:** I see.

**Perloff:** That may have been even before Life Lab arrived. I am not sure it was going all the time. It may have continued. But I think there was a period where it lapsed, or it was just in the summers. I'm not sure. I can't remember the details of that, but I'm pretty sure that we had very little to do with it.

And then the garden classroom was designed. We really tried to bring CASFS in as much as possible, because we really wanted to collaborate with them, and it made sense. Plus, we wanted them to be happy. And frankly, there were some dicey times there. Because this was a farm that—some of it was carved with only hand tools, you know? I like to say that they dug out the garden with abalone shells [laughter] but there was probably a little bit more technology than that.

After we got our garden designed, all approved and everything, one day this giant dump truck showed up filled with big slabs of cement, because we had decided to use the sidewalks from Mission Street that had been torn up to make into our garden beds, because we really wanted to model recycled materials. I think everybody at the Farm just freaked out and was wondering what was happening to their beloved farm. Of course people felt a sense of: This is the way it's always been, and what are you doing to it? What's happening?

The cement was poured, and there was a hardscape where there'd never really been much hardscape up there. It was all just kind of decomposed granite path. Partly that was because we had to make it wheelchair accessible, which the Farm

had never been. We could no longer sort of ride on their coattails of not being all up to date. And we *wanted* it to be wheelchair accessible. We wanted it to be a place that anybody could come to.

So at first I think it was a little bit terrifying for people. There were meetings held, and some people were quite upset. Before long, though, when the first plants started growing and everything started greening up, it became everyone's favorite place to go and hang out. It brought our two organizations together. There were parties and barbecues and gatherings, and it was great to start, not only just getting to know the people at CASFS more, but also sharing information. Now when they bring the busloads of tourists who are from Japan or wherever, who come to the Farm, they always come by and see the children's garden program. And so do the culinary students who come to see CASFS. It's become a highlight of the tour of the Farm.

**Rabkin:** So it sounds like those initial fears at the sight of the slabs of sidewalk being dumped were eventually defused and allayed—

**Perloff:** Yes.

**Rabkin:** —and there were no lasting resentments.

**Perloff:** I don't think so. I think everybody loves the garden now. It's one of everybody's favorite places to be. Now our two staffs share an office. The Farm personnel were all in those Flintstone trailers that were basically condemned and decaying. There were rat nests on people's computers. It was awful.

**Rabkin:** Were they literally condemned?



**Perloff:** They were. Yes, they were condemned. So part of the staff moved up to Oakes College. But some of them really needed to stay on site, and we offered to have some of them lodge with us, as a way to cost-share. Also, it just seemed like it made sense. That was really all happening right before I left, so I haven't experienced too much of the cohabitation, but I think it's really been healthy for both organizations. It's made Life Lab have more of a presence as part of the Farm, but also strengthened both groups' understanding of what the other is trying to do, which has been really healthy.

**Rabkin:** What's been the result of having those offices move away from the Farm, proper?

**Perloff:** Well, I think that's been a challenge for some of the staff who used to be on site and who are now up at Oakes and need to come down and work off their laptops when they need to be on the Farm. It's just mostly inconvenient, I think. [And] it affects Life Lab's ability to grow. If we have a full house, it's hard to add more staff. I think that trailer's pretty full right now. It's a busy place. And it's exciting. There're people coming and going all the time, and apprentices and field trips and guest visitors. It makes it a really happy place to be.

**Rabkin:** So your trailer, being newer than all those other ones, did not have rat problems or decay?

**Perloff:** Right. Well, we did have rodents, but they weren't on our desks; they were under the floor.

**Rabkin:** [Laughs.]

**Perloff:** We just smelled them in the vents. No, I think that was a really good thing.

**Rabkin:** You mentioned a little while ago, when you were talking about offering awards to teachers or something, they could win seeds or a wheelbarrow. You said, "That's something I want to come back to."

### Let's Get Growing

**Perloff:** Oh, I was thinking of a historical thing that was interesting in the development of Life Lab, and that was that probably in the mid-eighties, around the time that the whole National Diffusion Network thing was really happening, maybe a little earlier. General Feed and Seed Company out in Soquel started a kind of offshoot organization. Jerry Kay and John Henry Ledwith collaborated to create this organization called Let's Get Growing. It was basically a catalog company to fulfill the needs of schools that wanted to get started with Life Lab. They had everything from indoor growing units, to thermometers for your compost, and all the Life Lab curriculum, of course, and other children's books. That went on for quite a few years, and we helped teachers get started with that as a resource. Then I think they finally folded up shop.

**Rabkin:** Were they [General Feed and Seed] retailing it out of their store?

**Perloff:** Yes, you could go to the store and buy stuff. But it was mostly kind of a drop-ship type thing, where you would order something and they would order it from someone and send it off. Those things got sent all over the country from right here in Santa Cruz. So that was a good resource to get people going. Now

the emphasis is on using the National Gardening Association for support, which is an organization that has done a lot to help get kids' gardens going in schools. They have provided a lot of resources with their Web access. But they don't really have the staff to do trainings. They do more of the big promotions, working with corporate sponsors and getting corporations to adopt schools, that kind of thing.

### **California School Garden Network**

Which reminds me that you asked about resources. Another really valuable resource is Life Lab's website, which has quite a lot of information on it on how to get started. We've connected with what's called the California School Garden Network. The California School Garden Network was formed a few years ago to help promote gardening throughout the state. Life Lab was one of the main organizations. There's also UC Davis, which has a really big children's garden program, and some of the other model school gardens that were designated by the state Department of Education. Life Lab is one of them. One is down by Santa Barbara. There was one in San Diego. Anyway, different groups came together, some nonprofits and some educational organizations, universities, to form this group to put out the California School Garden Network. The goal in the first years was to create, first, a massive website that was like a clearinghouse for any information you wanted to know about school gardens. And so a lot of our efforts have been dumped into the [csgn.org](http://csgn.org) website. Rather than we trying to recreate everything that's on there, the focus was to let that be where we send people. So that is really valuable for not just people in California, but all over.

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Also the CSGN helped create a book, working with the National Gardening Association. All these groups know each other and are connected. The book is a guide to starting school gardens, which has a lot of the same information that's in our book. I think we all wrote chapters for it, so it sounds sort of similar. But it has really beautiful, colorful pictures and is very beautiful to look at. It makes people excited about the concept of getting kids growing.

### Shifts in Direction

I want to go back to the whole notion of the change in eating habits and getting kids to exercise more and eat healthier. This has created a big shift, not so much in Life Lab's direction, but I think in the funding sources and some of the ways that we were getting ourselves out there—this whole discovery that America's children are so obese and so lacking exercise and what can we do about it, and how does nutrition play a role? Some of the special projects that we worked on over the years were nutrition-related. We did a project in Pajaro with a focus of doing intensive nutrition education with teachers and getting them to do intensive nutrition education with their students, but all focused around the garden. The goal was to get them growing more fruits and vegetables, and doing more classroom lessons around eating more fruits and vegetables. So really a tie-in between cooking and eating. That kind of model was repeated in a lot of places, and that's a trend that brought us more recognition, brought us more funding to do projects. Probably in the last five years, that's been a real push. So it wasn't coming so much from the science, as it was from wanting kids to eat better and know where their food came from. And then the whole farm-to-school

movement of getting farm food into school cafeterias, and getting kids out to see farms and see where their food came from, really was a perfect fit for what we were already doing.

**Rabkin:** Are there ways that you see school garden education contributing to the movements for sustainable agriculture and food systems?

**Perloff:** Oh, absolutely. I think that the earlier we get children understanding how sustainable ag and food systems all fit together, the more informed they're going to be, and the more they're going to play a role in supporting those systems—buying more locally, eating what's in season, eating things seasonably, but also getting involved as policymakers in the community down the road.

**Rabkin:** Over the course of your time at Life Lab, were you able actually to see any signs of changes resulting from this educational movement?

**Perloff:** Well, it's hard to say if they resulted from this movement or whether they— There're just so many more people aware. The awareness level has totally spiked, gone up, since we started. There was a time when I taught workshops to teachers, and we did one activity where we read labels. It was called Yes, It Has No Bananas, or some silly thing like that.

**Rabkin:** [Laughs.]

**Perloff:** It was about some kind of banana pancake mix, or banana muffin mix or something that absolutely had no bananas in it. The teachers would read this and [were] kind of shocked [to] discover this. But I remember one teacher saying, "Well, why should we read the label if we're just going to eat it anyway?" That

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kind of thinking, although I'm sure it still exists in a lot of places, has really turned around—not just because of what's happening in classrooms, but because of the national movement, from everything from governmental organizations to food distributors, to get people to look at what they're eating and think about how it's going to affect their health. When we started all this, that awareness was zilch. There was very little knowledge. Or if there was, it was kind of in elite little groups in places like Berkeley and Santa Cruz, where people knew that all this fresh stuff couldn't hurt ya, was probably good for you. Of course, that existed elsewhere, too. But that whole awareness has really changed. Parents are right on the bandwagon, wanting their kids to eat healthy. And then the whole Alar scare and Meryl Streep and all that.<sup>6</sup> There have been so many different parts.

I would say that this kind of education has been a piece of that. People realize the school gardens are a real thing. Alice Waters did a school garden, therefore, it must be something important. So many different groups have contributed to it, and I definitely think that it's become much more mainstream.

The education has had an influence. Things that were kind of unthinkable fifteen, twenty years ago are now really common. You see gardens at so many schools, so many places. And people definitely recognize the value of kids connecting to nature, kids connecting to the food systems, having some of those experiences that fewer and fewer kids get. At the turn of the last century, something like fifty percent of American families were engaged in farming, and now, at the turn of this century, it's more like two percent. So this disconnection from the farm and from food is huge. If we can connect that up a little better for kids and bring it back, it makes a big difference. Educators are recognizing that.

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## The Rewards of Working with Life Lab

**Rabkin:** What aspects of your work with Life Lab did you find most fulfilling or enjoyable?

**Perloff:** That's a good question, because sometimes it was frustrating to go to a school, say, in San Diego or New York, and work really hard and pour out all this energy into them and then not hear back from them, or not be in touch with them because we were on to the next thing, and not know what they had accomplished. But then every once in a while you'd get a big package in the mail filled with pictures of all these ideas that you had kind of given to them, that were happening in their school. They would tell you about their big harvest, or their big Grow-a-thon, or whatever it was that they'd done, or how much they had given to the hungry, or some of the things they were doing in their classes. So that was really wonderful, to hear the follow-up.

And then also my office was in a location where I could look out and see the kids who were actually visiting our garden that we had designed. I watched them when they were engaged, whether it was looking at something pollinating, or making tortillas from corn that they'd ground themselves, or something like that. And to see the excitement on their faces and the enthusiasm was definitely one of the highlights—to actually see it in action.

A lot of the work I did was very much administrative—writing grants and reports and trying to get money from here to fund this or that, or signing people up for workshops. Sometimes that part could be a little mundane. It's not like being a classroom teacher, where you're surrounded by your “products” every

day. I didn't get as much of that fulfillment sometimes as I needed. But when I did get it, it was really great. Or, you just talk to a teacher years later who has been doing all kinds of stuff in their schools with their gardens or in a whole district, and they say, "Oh, remember, I did my first workshop with you back in whenever," which always makes me feel really old, but—

**Rabkin:** [Laughs.]

**Perloff:** —satisfied.

### Challenges of the Work

**Rabkin:** Were there aspects of the work that kept you up at night?

**Perloff:** Oh, definitely, definitely. I could talk to groups until the cows come home, and I will never get over my butterflies the night before, or when you don't know who you're meeting with and who your audience is. Once I've gotten to know everybody, then I'm fine, and I could go on and on forever. But there were schools where you were brought in by the administration; the teachers had no interest. Either they all had fingernails six inches long and the thought of getting out in the garden was terrible, or the parents had decided that there would be a garden at the school and that the teachers would be involved in this. You were being fed to the wolves. But I actually enjoyed those challenges. I dreaded them, but I enjoyed working with the teachers to turn them around and get them to the place where they could understand how this could be part of their curriculum, although I really didn't believe that it should be if they didn't want to have anything to do with it. I didn't think anybody should ever be forced



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to do this with their students. So that part could be challenging, even though it was also my greatest pleasure to talk with a group of dedicated, interested teachers and help them figure out how to make it work.

Also, just deadlines and funding. I mean, the reality of working for a nonprofit is that you never know where your next dollar is coming from, or if it's coming at all, or if you have a job. One of my other hats was I was one of the main grant writers for Life Lab, trying to shape projects that appealed to funders but also helped keep us in line with our mission and where we were trying to go.

**Rabkin:** Did you have training as a grant writer, or did you learn by the seat of your pants?

**Perloff:** Seat of my pants, completely. I might have gone to a couple of seminars or something, but I learned by doing—by rejections, by redoing, but working with some of the people at Life Lab who had been doing a lot of grant writing before: Robbie Jaffe and Gary [W.] Appel and Lisa Glick. When they left, I was pretty much the last one standing [chuckles], so by default it was me. That was also, very, very fulfilling, when you could separate a big foundation from its money [chuckles], or a governmental organization, and use it to a good end. But then, of course, there was all the reporting and keeping up with all the deadlines and that kind of thing. But for the most part, I enjoyed that.

**Rabkin:** I want to go back to the teachers with the six-inch fingernails for a minute. Did you ever have the experience of seeing somebody who was clearly at first not interested in the whole gardening thing, or getting her hands dirty (or his hands)—did you ever actually get to see that turn around?

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**Perloff:** Even in the course of a two-day workshop, we would see that. Because we always do a lot of introductions at the beginning and have people tell their stories: what brought them there and what brought them to gardening, or if they were even interested in gardening and growing, and how they saw it fitting into education. And definitely, there would be people who were really clear up front that they were told that they were coming to this. By the end of the two-day workshop often we would hear, “This is the best workshop I’ve ever attended.” “This is so great. I can’t wait. I’m going to go home and build my compost pile this weekend.” They were taking it very personally, because it was the first time that anybody had ever really explained to them, unlocked some of these magical secrets of gardening: how you can make something grow and how you could create a bed in your backyard in one day, and build a compost pile, and have something that nurtured the soil, and then you could feed, and give back to, and show them the system.

I remember my eyes opening when I attended my first workshop, and feeling like, wow, now I get it. Even though I’d grown up in a family that had been gardening forever, it had always been kind of haphazard and not very purposeful. And so to learn, oh, there are these things called macronutrients and you can’t just keep planting in soil and taking out, taking out. You have to give back to it. You can dig the soil in a way that makes for a healthier bed. All these kinds of things were new to me, even having been an environmental studies-biology student. To see it in practice and to see it really work in the field is a totally different thing.

So I definitely saw people turn around. And even if they never did any growing with their kids, I think they're much more likely to do it at home as backyard gardeners, and to have a little better understanding of what they're doing.

### Future Directions for Life Lab as an Organization

**Rabkin:** What do you see as Life Lab's biggest challenges as an organization?

**Perloff:** That's a good question. I think trying to figure out their identity, whether the focus is really on working with school systems, and working with and continuing to grow to meet the needs of the new academics, and what schools are expecting of students, or whether to— I guess the question really is whether Life Lab is going to be engaged in formal education or informal education. I think it's a lot easier to be involved in informal education. It's a lot easier to be a program that does after-school, and summer, and maybe school field trips that are more about general knowledge, and not so much about specific standards and all that. Or whether Life Lab can really be engaged in keeping up with the educational— I mean, a lot of it is just sort of jargon, and a lot of it is just fads and trends. There are so many different ones that have come and gone just in my tenure at Life Lab. But to be able to speak that language and to be involved in a level that is more something the National Science Foundation would fund, versus doing more the sustainable-ag approach and the school-nutrition approach—let's just get kids to grow and eat healthfully. They're kind of two different personalities.

**Rabkin:** Yes.

**Perloff:** One is more down-on-the-farm and fun and folksy, and the other one, you really have to be professional, and in the know, and stay up to date. It's a small organization, so to do both is tricky. And to stay funded to be able to do all those things, or to decide: Is it appropriate to do all those things.

**Rabkin:** Yes. And where do you see the emphasis now?

**Perloff:** Right now I think we have moved towards the more farm and sustainable-ag approach, which isn't a bad thing. It's more local. It's more working with the schools in our backyard, and less national—which, given the state of the world and what's going on, it maybe makes more sense to be a local resource and not try to be so many things to so many people. I think that it's an easier fit, especially given what's happening with education, and the demanding standards, and the lack of time that people perceive that they have to do things like a garden program.

The whole LASERS approach was very much more about systemic science education, and connecting earth, life, physical science—doing it through a continuum over the grade levels, very much about very in-depth experimentation, and pre-reading, and post- and assessment, and really sticking with what is expected of a classroom teacher. That emphasis has gone away.

A lot of it has to do with funding. When you have a National Science Foundation grant, you do all those things. When you have other sources of funding that are more open to just working with kids out in the garden, you do those sorts of things. Life Lab probably is going to need to make some choices in the next few years about which way it wants to go.

**Rabkin:** So those are currently consciously open questions at Life Lab?

**Perloff:** I don't know if anybody is really asking those questions right now. I think there's definitely the tendency to live in the moment and work with what's going on right now, and put out the fires that need to be put out. Probably at some point if there's staff turnover, if the board changes, those questions may be asked again. I've definitely seen the shift since I've been there. I don't think one is better than the other. I really don't. I think that they both have their place, and I think right now it suits Life Lab more to focus on informal education and sustainable agriculture, and maybe a little less on the strict science. It seems to be how the community at large sees it, too. I mean, beyond Santa Cruz, school communities seem to see this as a valuable asset to their science program but [also] more about the experience, the experiential education, which I think is equally valuable.

**Rabkin:** How would you like to see Life Lab grow or develop over the next several years?

**Perloff:** Wow, that's a hard question. I would like to see more outreach into different communities. We work really well with this little community in our backyard. The field trips are filled up a year in advance, and we've got lots of demand for programming. But there are definitely places that probably need Life Lab more that we're not getting to.

**Rabkin:** In California?

**Perloff:** Yes, in California, I think more in the inner cities, more in some of these districts that *do* have such stringent, stringent regulations for their teachers and what they're allowed to teach. And those are probably the kids that need it the most, even if it's just an hour a week where they get out into the garden and see something real unfold, and see that things poke up from the dirt and roots go down, and seeds fall off, and it's all a cycle. To be able to see that, and to feel like they can make a little change in one little part of the planet, or make something beautiful grow, or make something delicious grow—I think those schools are probably deserving of that. Life Lab needs to figure out how to work with them more easily—get themselves there and get those schools here. There's definitely been an effort to do that working in Pajaro and Salinas, but we could do more of it, figure out a way to have more staff and do more of it, because it's all about people.

That's one thing I really learned, working for a nonprofit: It's all about who you are working with, how many of them there are, and what one individual can do. So the more people, the more— I don't know whether it should grow and get bigger and bigger, and have a huge staff and an army of little Life Lab people going out there. I don't know if that's the right thing, but somehow figure out how to replicate the program in more places.

**Rabkin:** Here's an off-the-wall last question.

**Perloff:** Okay.

**Perloff:** What's your funniest memory of working with Life Lab?

**Perloff:** I remember kids asking some really funny questions. They're not hysterically funny, but that just struck me as being so perfectly kid-like. Like, I remember a child who— We did an activity where we split open a bean seed that had been soaked, just to look at the embryo—the leaves and the root. I think this was actually when I was teaching Life Lab material in the classroom. And the child, a kindergartener, looked at this little embryo and said, "It's a fish." And it really does look like a fish. It made perfect sense that a fish should be inside of a seed. Why not? Why not a fish? Why a plant?

Just little things like that, that were so surprising that show you the innocence of children. They're just these little vessels ready to learn. And also trying to figure out how to prove to them that this is something else, or let them discover on their own what that little thing really is. They might not learn it that year. It might take them several years before they really "get" that that little fish turned into a plant when they sprouted their seed. But once they learned that from doing it, that knowledge really became theirs. That was really the goal: it was no longer was something that was just written in black ink in a textbook but was something very real to them. Ideally, if they have an understanding of how these systems work, they'll be more likely to care about them, and want to protect them, and want to be connected to them in the future. So that was the underlying theme for most of us at Life Lab.

**Rabkin:** Anything you would like to say before we finish the interview?

**Perloff:** Well, I guess we should give more than a nod to the early founders of Life Lab. You have talked to Robbie Jaffe, so you have heard about Gary Appel

and Robbie and Lisa and the work that they did. I think that was really what started it all out. Many things bloomed from that, but their work and their original material was so good at that time. It really didn't need that much changing, and they really "got it," got how to work with kids and how to get kids thinking. I think that's really important to recognize.

And, of course, all the hundreds of teachers, thousands of teachers who have been involved over the years and what they gave back. It's great to think that there's so many more children out there that have been affected, thousands and thousands of children that had at least that one experience in their lives. Even if only one teacher in their childhood got them out growing things, they're going to remember that, and it'll hopefully affect them someday. So maybe in twenty, thirty years we'll see this upsurge of parents doing things with their children, school gardens. It's nice to dream about that, anyway.

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<sup>1</sup>The Natural History Field Quarter was an integral part of the natural history pathway within the environmental studies major at UC Santa Cruz, and was founded by Professor Kenneth Norris in 1975. According to the UC Natural Reserve System's website: "Field Quarter takes students on a natural history journey across the state. Though the exact itinerary changes from year to year, the trip always begins in the Mojave Desert at Sweeney Granite Mountains Desert Research Center and moves northward with stops that might include the Channel Islands at Santa Cruz Island Reserve, the Big Sur coast at Landels-Hill Big Creek Reserve, the Carmel Valley at Hastings Natural History Reservation, and the redwoods of Mendocino County at Angelo Coast Range Reserve, before ending in the Sierra Nevada mountains."

[http://nrs.ucop.edu/courses/024\\_natural.htm](http://nrs.ucop.edu/courses/024_natural.htm) Alfred E. Heller Professor of Agroecology and Environmental Studies Stephen R. Gliessman co-taught Field Quarter with Norris for many years. (Please see the interview with Gliessman that is part of this Sustainable Agriculture/Organic Farming Oral History Series.) Gliessman and Breck Tyler have continued teaching Field Quarter into the present day. For a history of the Field Quarter, including the contributions of both Norris and Gliessman, see *Kenneth S. Norris: Naturalist, Cetologist, and Conservationist: An Oral History Biography* edited by Randall Jarrell and illustrated by Jenny Wardrip Keller (University Library, Regional History Project, UCSC, 1999). This book is available through the University of California Press.

<sup>2</sup> See the oral history with Gail Harlamoff in this series.

<sup>3</sup> See the oral history with Robbie Jaffe for more on the early history of Life Lab at Green Acres School.

<sup>4</sup> See the oral history with Robbie Jaffe in this series.

<sup>5</sup> See the oral history with Steve Gliessman in this series.



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<sup>6</sup> Alar was a chemical, first marketed in 1968, that apple growers sprayed on trees to make their apples ripen longer before falling off. Alar breaks down to a byproduct called "unsymmetrical dimethyl hydrazine" or UDMH, which was shown to cause tumors in laboratory animals. The U.S. Environmental Protection Agency began to look into Alar's hazards in 1980, but stopped investigation after a closed meeting with Alar's manufacturer, the Uniroyal Chemical Company. In 1984, the EPA re-opened its investigation, concluding in 1985 that both Alar and UDMH were probable human carcinogens. Under pressure from Uniroyal, however, the EPA allowed Alar to stay on the market. Its use continued, even after tests by the National Food Processors Association and Gerber Baby Foods repeatedly detected Alar in samples of apple sauce and apple juice, including formulations for infants. Consumers Union and environmental groups such as the Natural Resources Defense Council (NRDC) saw Alar as an example of a regulatory system that was not functioning properly. All of this came to a head in February 1989 when the TV show "60 Minutes" did a show on the risks of Alar, to much public outcry and a sudden increase in the public's desire to buy organic apples. By 1989, the states of Massachusetts and New York had banned the chemical, and the American Academy of Pediatrics was urging a similar ban at the federal level. On February 26, 1989, CBS-TV's *60 Minutes* aired an exposé titled "A is for Apple," which became the opening salvo in a carefully-planned publicity campaign developed for the Natural Resources Defense Council (NRDC)."