



Strategies to Broaden Knowledge: Citizen Scientists and Citizen Folklorists

Maribel Alvarez and Gary Paul Nabhan

My colleague Gary Paul Nabhan and I hold formal academic positions as social scientists at the University of Arizona's Southwest Center, but most of the people we work with know us instead as folklorists, narrators, documenters, storytellers, conveners, advocates, friends, and collaborators. The title of social scientist fits well with our backgrounds and job descriptions. We both earned doctorate degrees, in geography and anthropology, respectively. We teach classes, mentor and train graduate students, research social problems using theoretical constructs, and publish findings in academic journals. In other ways, however, the work we do reaches beyond the conventions of science as understood in most university settings. The majority of our investigations are conducted in partnership with community members, often by privileging the expertise found in local stories and ways of life. We frequently share our findings in nonacademic publications, often directed to nonacademic audiences. These practices complement, and sometimes challenge, claims to academic authority. They lead us to re-examine assumptions about who is an expert; in what settings our academic expertise is needed, invited, or may be redundant; and for whom the findings are important.

Gary and I are not alone in modeling these scholarly practices. We are part of a longstanding tradition of academic researchers who have sought to uplift models for community-involved or participatory research. Revolutionizing the fields of folklore and anthropology with ideas about reciprocal ethnography, citizen ethnographer, community scholars, and the various ways in which academic researchers can help advance an ethical commitment to the co-production of knowledge, these conversations have been taking place in the academy, in one way or another, since the 1970s.

About the photo: The Southwest Folklife Alliance works with Yaqui communities in Sonora and Arizona to honor one of the least understood aspects of Yaqui social history: culinary resistance. The collaboration builds upon research by Maribel Alvarez around the role of wheat in the formation of Sonoran economy and society and by Gary Nabhan and Native Seeds/SEARCH to revive interest in and commercial viability for the 300-year old wheat variety. Read more at <https://www.southwestfolklife.org/yaqui-culinary-resistance>.

Photo courtesy Southwest Folklife Alliance.

Folklorists, in particular, have helped lead the way. The idea that knowledge about human behavior and the natural world can exist in rich and erudite forms among “ordinary” people is essential to the folklorist’s worldview. A large part of what folklorists do in schools and communities is help people recognize the inherent value of what they know as insiders of the groups they belong to and the places where they live.

In the last 15 years a new trend has emerged that has pushed the boundaries of expert knowledge even further. Fueled by widespread access to the Internet and smartphones, citizen science is a growing practice that enables ordinary people, often without any formal scientific training, to contribute to scientific research in their spare time. Several headline-grabbing examples of citizen science projects have emerged (Xue 2014). Among them, the Rosetta algorithm created by David Baker at the University of Washington outsourced the scientific work of protein structure prediction to home computers and eventually led to the creation of the Internet game Foldit. In 2007, astronomers from Johns Hopkins and Oxford Universities developed a website to involve amateurs in helping classify galaxies. Tapping into the phenomenon of crowdsourcing, scientists are enrolling citizen naturalists to help assess the ecological impact of climate change and citizen subjects to help develop face recognition technology. In 2014, the *Oxford English Dictionary* formally recognized the term citizen science. The [Citizen Science Association](#), based at the Cornell Lab of Ornithology, lists more than a thousand projects currently open for public participation.

Since the early 2000s, Gary and I have worked, jointly and independently, in a variety of projects involving ethnobotany, Indigenous agronomy and foodways, desert arid lands, and transborder social dynamics. We have discovered that the modes of engagement most effective for empowering communities often lead in the opposite direction of the conventional assumptions of social science projects. For example, on some occasions we have questioned whether all the information that collaborators shared with us needs to be, or should be, published. Whether we are looking at uses of water in the Sonoran Desert or economic food initiatives in an urban neighborhood, our distinct lines of investigation frequently confound the boundaries where science ends and folklore begins. In some instances, the lore of desert living *is* the science: When will the rains come, what signs can be detected that rain will be abundant or scarce, why are washes in the desert unpredictable, how do ancient beliefs about waterways play out in conditions of water scarcity and climate change?

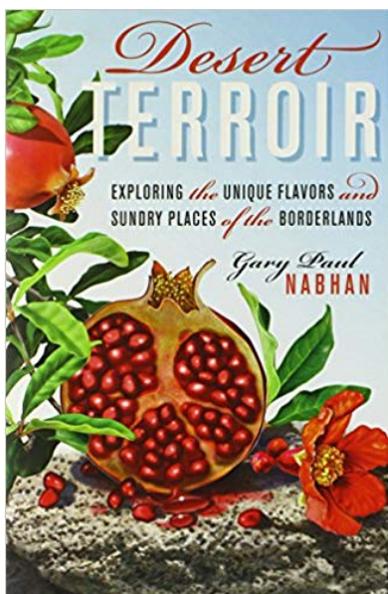
Minding questions of ethics and authority at the outset of an investigation changes the position and subjectivity of the researcher—it makes you humble and attentive in a special way. It also redefines what is at stake in the core scientific inquiry. For example, when Gary and I began a project a few years ago dealing with agricultural conservation of heritage wheat in the Arizona-Sonora Desert borderlands, our research questions quickly became entangled around inquiries of cultural memory, ritual and ceremony, resistance, sovereignty, and indigenous sustainability.

It was in this context that, in our own distinct arenas, we became curious about the possibilities of aligning what we were doing with the new principles and methods of citizen science. We were intrigued with the idea of a widely democratic research design that allowed ordinary people to set the terms of engagement with scholars or to drive the process of determining which questions needed to be prioritized in their local settings. Gary led several successful citizen science projects in the Tucson Basin identifying plants, their flowering times, and relationships to wild pollinators.

Adapting the concept further, I began to explore how a citizen folklorist approach to knowledge gathering in the Southwest could articulate a different relationship of authority and decision making between the university and the communities affected by our inquiries.

We believe these insights can apply to other educational settings and can help teachers re-imagine how to involve students in ethical practices of cultural and social investigations that place community members' desires, needs, expertise, and aspirations at the center of the project.

Below we share excerpts from a transcribed conversation that took place in February 2018 in which we explored our journeys, experiences, and insights working with citizen scientist and citizen folklorist approaches. We believe a conversation is the most appropriate format for modeling the kind of learning and authority sharing that we advocate. As a narrative genre, a conversation is characterized by fluidity and the co-creation of meaning: One person's idea triggers another's, and together they negotiate the credibility of the stories shared. The best findings in citizen science and citizen folklore often emerge as the result of conversations among peers—neighbors, residents, students, parents—and, occasionally, also in respectful exchange with a scholarly expert outside the community.



Gary Nabhan, W.K. Kellogg Chair in Southwest Borderlands Food and Water Security, writes extensively about food and place. He is an ethnobiologist, agroecologist, conservation biologist, and cultural geographer engaged in a number of biodiversity endeavors.

Gary has published more than 35 books exploring the interface between deep scientific knowledge of a place or region and its social and cultural character. He is internationally respected for his advocacy on behalf of “eating local” before this notion was widely known. A MacArthur Fellow and a founder of Native/SEED Search, his latest project involves the mapping and restoration of pollinators across the U.S.-Mexico border. My work as the Jim Griffith Chair in Public Folklore at the University of Arizona and Executive Director of the Southwest Folklife Alliance has led me to interact with dozens of ethnic, folk, and tribal community partners engaged in a wide range of inquiries of cultural preservation, economic development, and cross-cultural understanding. The agendas and priorities for these projects are often set by community partners in their own time, place, and terms; my participation or SFA's role becomes that of enabler, coach, and facilitator, sometimes only in the background. As a former Trustee of the American Folklife Center at the Library of Congress I have a special interest in documenting new, cutting-edge technologies of participation that can assist folklorists and communities come together to gather and share knowledge.

Work Cited

Xue, Katherine. 2014. Popular Science. *Harvard Magazine*. January-February, 54-9.

Definitions and Frames

Maribel: I think we should start this conversation by considering what we each understand by the concepts of citizen science and citizen folklorist.



Gary: Citizen science emerged from both the non-formal environmental education world and scholarly groups on university campuses, like the [National Phenology Network](#). The network uses citizen participants to track the life cycles of flowers. My take on it is that we don't have just one model of citizen science, but many. The various approaches can include work done under the direction of a scientist to gather very

specific types of observations, work that the scientist performs on behalf of a public interest (like expert witnesses do), or work that members of a community take upon themselves to educate and redirect the efforts of a scientist. Sometimes these occur simultaneously and are in collaboration with one another, and at other times they're in creative tension with one another. My own work with the Comcaac Indigenous people in the Gulf of Cortez, Sonora, and to some extent with O'odam tradition bearers in Arizona, has unfolded under this larger umbrella I'd like to call participatory science. The same practices that we call citizen science are embedded already in what many indigenous communities do trying to teach themselves what traditional ecological knowledge they can recover and hold onto for new generations. It is taught by community tradition bearers through a method of primary observation. The difference between citizen science and indigenous participatory science in this manner is that the observations in the participatory or indigenous setting contain the traditional knowledge, practices, beliefs, and stories of multiple generations. In other words, the process of data gathering does not begin with observation, but instead observation grows out of the knowledge that shapes our vision of what to observe. It's not one or the other, or linear. For traditional communities, those two things are melded in a beautiful way.

M: Very interesting; part of the received wisdom of a community is knowing what merits attention and what does not. The recent interest in citizen science illuminates certain aspects of the production of knowledge that are crucially important for science. It is a way for science to refresh its perspective and be more effective. In a way, all great scientific discoveries in history emerged out of testing probabilities that were not previously considered. Yet, we also see in the enthusiasm about citizen science our tendency to celebrate as new practices that for some communities have been standard operating procedure since ancient times.

G: You know, one of the most interesting examples of this I know of happened in the Sonoran Desert. It concerned observations of a desert bird called the Poorwill. The scientific consensus was that this bird flew south for the winter like other birds. And the Pimas, whose ancestral home is the Sonoran Desert, kept on saying, "No, no. They don't. Look at their *plumas* (feathers), they are camouflaged with the rocks. And during the winter, they go to volcanic hills where they're completely camouflaged and you can walk within a foot of them, and they stay quiet because they know that's their protection. And so, we know that they stay here all winter and if you guys watch carefully, you'll see them too." Finally, an ornithologist listened to the Pimas and published a

Maribel Alvarez photo by P. Espinosa. Gary Nabhan photo from <https://www.garynabhan.com>.

correction to the scientific knowledge of record saying, “The Pima understood that these birds stay over winter here, and we have to acknowledge that.” So, what I love about this is the lesson that scientific endeavors must always be approached with great humility.

M: That’s an important lesson, indeed. The way citizen science has developed in the literature and through common practices over the last 20-plus years implies and accepts what today we call a DIY approach—or do-it-yourself. Basically, a scientist entrusts the nonscientist or the amateur scientist to gather data; this assumes a trust in the ability of the grassroots researcher to identify what is relevant data and what is, on the contrary, just stuff, or random phenomena, or noise. I find this element of trust to be one of the most interesting distinguishing characteristics of the citizen folklorist and citizen scientist approach. By valuing trust in the ability of the non-credentialed investigator we are pushing the envelope beyond community consultation. We are in fact realigning whose credentials are a better fit for different situations. In my work, sometimes I have assumed a role that is suited to the kind of skills I bring—like grant-writing, for instance. As a credentialed folklorist it can feel awkward to be assigned a role in a project that is primarily managerial, but this makes sense if that is the one thing I can bring to the common inquiry as an expert. I need to trust my co-narrators to know what questions to pursue, how to interpret what matters, and how findings affect the lives they are living. Sometimes I have experienced the opposite: The community has all the know-how and management capacity but they are in need of a frame for interpretation or a theoretical construct to make sense of why this thing is happening in this particular fashion. They call on me to offer larger frames of interpretation, comparative skills, or analytical tools.

G: I think we need to challenge our colleagues in the academy to clarify what we mean when we say a project run out of the university is participatory. Just as there are many varieties of citizen science—some in which the citizen part simply means that the scientist speaks up with courage about some controversial issue, like climate change—there is a range of understandings about what it means to engage the folk in participation.

M: I agree; participation can be defined in many ways. Sometimes we call a project participatory because we asked a bunch of questions—questions that we came up with based on our own understanding of what is relevant or important to know. If people are nice to us or polite and answer our questions, we say they participated. But that covers up in shadows a whole lot of steps. True participation of people on the ground of our community settings means making room to be shaken out of our previous assumptions or given knowledge.

G: Too often we lead with our assumptions; that can make for either terrible or wonderful science. Assumptions can be disguised as hypotheses—it is where we all start from, whether we acknowledge it or not. How are you applying the citizen folklorist approach in the work of the Southwest Folklife Alliance to find equilibrium between what is known and what is yet to be imagined?

M: We first used the concept of citizen folklorist to gather data about culturally diverse end-of-life practices. There was a real need in the community, among hospice workers, medical service providers, and even funerary home directors, to talk about cultural differences in how people talk about and experience death and/or planning for death. It was a big project, and we had limited

resources. In fact, we had only one folklorist in the project; it was she, Monica Surfaro Spigelman, who came up with the idea of amplifying our team of experts by recruiting a cohort of volunteers we could deploy to work in the community documenting end-of-life practices. Monica knew this was exactly how scientists were using large volunteer networks to dig into pools of data (like stars in the universe) too large for one person to manage. She said, “We’ll convene a group of citizen folklorists,” and the concept rang a bell. We began with 35 citizen folklorists; they researched end-of-life beliefs among groups it would have taken a single credentialed folklorist years to build rapport with. It has opened opportunities in different levels. We now have a way to validate the inherent skillfulness of neighbors to talk to neighbors about what they know to be true of their own lived realities. In some ways, this is not new. This practice is at the core of what ethnographers hope to do and often do, that is, understand the world from the point of view of the person who is an insider to that culture. But there is a slight qualitative difference in how we are using the concept of citizen folklorist. We did more than consult or interview “informants.” We also recognized the skills of inquiry and intellectual prowess of the community scholars or citizen folklorists who did not have a degree in folklore. We trusted they would get good data without our having to monitor their performance as researchers.

G: Yeah! That is so wonderful to be able to multiply the learners and the experts all at once. And it’s remarkable how much citizen science has grown not only in the number of people participating in it, but its influence on science overall. In studies of the *Mariposas Monarcas*, the Monarch butterfly, for example, one-third of all scientific papers acknowledge that they could not have learned what they learned about this endangered beautiful species had it not been for the data gathered and submitted by the participatory citizen science networks of schoolchildren and retired people recording where Monarchs were seen on their migration—both in the U.S. and Mexico.¹ Then there’s something else: the cultural meanings embedded in making those observations. Think about it. The Monarchs are kind of the Dreamers of the butterfly world. They come across the border and have status in both countries. And without those citizen scientists [on both sides of the border], we would not have enough knowledge to honor that. And now, the movement on behalf of immigrants brought to the U.S. as children, also known as DACA or Dreamers, have embraced the monarch butterfly as their icon; a symbol of those seeking safe passage across the border.

Ethical Horizons

M: Now that you mention the Dreamers, let me say something about the use of the term citizen in the concepts citizen science and citizen folklorist. The word citizen in these contexts does not refer to someone’s legal residency status—it is not a judgment on being documented or undocumented. Citizen in the present context evokes its early use in the formation of liberal democracies—an autonomous individual whose self-dignity matters in a system of political liberty (not a subject of a monarch or a feudal lord, for instance). Citizen is a word related to the emergence of what we call civil society, or the uncoerced, voluntary participation of social actors as part of a collective.² The use of citizen applied to any occupation usually implies individuals acting out of free will toward a social, common goal. I found a curious reference about the notion of citizen soldiers in the struggle over Texan independence in the 1830s. For most of the period before the Civil War, the various governments claiming sovereignty for the Republic of Texas relied upon ordinary citizens to volunteer for war and defense of borders. Most of the initiative to form these militias came from ordinary members of the community; no government agency drafted or coerced them.³ I believe this notion of independent agency carries through in the citizen folklorist and citizen

science concepts. People step up to play the role of “scientist” and “folklorist” out of their enthusiasm for the projects, regardless of whether they hold formal degrees in these fields or not.

G: Well, what you are saying is that at some point in the evolution of science and folklore as fields of study, knowledge was co-opted by the professions. The production of knowledge was assigned to experts and barriers were set in place to safeguard which forms of knowledge counted as valid. Medicine became a science and popular methods of healing became “folk medicine.” Same thing happened with music, or architecture, or botany and biology. In other words, knowledge became a privilege of those who could attain it. This conception of knowledge as a way to enforce social hierarchies is so diametrically opposed to the experiences I’ve had working with wonderful indigenous and ordinary people all over the world. I’m humbled so much by what common working people know, that we academically trained Western “scientists” don’t know. And I don’t mean this in a romantic way that attributes some supernatural powers to indigenous communities. I mean, traditional knowledge entails hard work. For instance, the Comcaac in Sonora, they are also called Seri, we’ve had workshops where we train young people as *Paraecólogos* (assistant ecologists), back to back with the Seri Elders and so-called academic experts on sea turtles. A *Paraecólogo* is like a first responder to wildlife. Over 400 Seri have participated in that program. They had observations about where sea turtles gather their food in the Gulf of California at different times in the year and at what water depths. That information astounded the Western scientists. They said, “We just thought they disappeared. We had no idea that people knew where they were.” The Seri also reported egg-laying nests far beyond what the Western scientists knew because they were walking on the beaches a lot. And there is this wonderful running thread between the science and the folklore. Yet, it was there, in the old songs and stories. My wife, Dr. Laurie Monti, and others have recorded dozens of Seri songs that alert people to watch out for what’s happening at certain times of the year.

M: Of course, that makes so much sense. I’ve always found helpful an article written a few years ago by the folklorist Steven Zeitlin, from New York’s City Lore, entitled “I’m a Folklorist and You’re Not.” He explains how at different crossroads in the evolution of folklore as a field of academic study and as a practice of public cultural advocacy and production, people have applied either “expansive” or “delimited” strategies to define who is a folklorist, and also possibly who ought to be involved in deciding and interpreting cultural phenomena.⁴ Zeitlin makes a point about the inclusion of folk-based artistic expression in the canon of American Art (capital letters) that I think applies equally well to the enterprise of citizen science and citizen folklore. He says that a folklorist is someone forever involved in the process of “recentering what others consider marginal.” He frames this statement within a logic model: Why would anyone interested in human knowledge and human quality of life be fine allowing entire forms of data that can help expand truth fall through the cracks of science?

G: So true. Yet in the efforts of trained expert scientists/folklorists to do good, we see a lot of concern about “giving people a voice.” I understand sometimes that is needed. But from the stories we are sharing, I derive a different conclusion. It seems to me people are talking all the time, but is anyone listening?

M: Exactly. In our work training and deploying citizen folklorists in an urban Mexican/Chicano barrio in South Tucson, for example, we realized that only a collaborative approach that demanded

listening at the outset would have any credibility with that community. People had grown weary of talking in vain; they had answered survey after survey that had come their way via university interns and grad students. The neighborhood was experiencing asset-mapping fatigue by the time we came in contact with them. Regardless of how we saw ourselves as folklorists, the university-backed folklore alliance was part of what folklorist Mary Hufford described as “the grid.”⁵ The more interesting things people had to say were off the grid and in what Hufford calls “the cracks,”—a public space for what might be left out. But, as you can imagine, even as the unheard speak, one of the criticisms leveled at citizen science is the question of reliability: Can the work of non-expert collaborators be counted on as accurate, or objective, or acquired by sound methods, or trustworthy? Fears about citizen scientists or citizen folklorists dumbing down the professional standards used to be expressed more openly a few years ago. What these fear-based responses missed was a recognition that the aim of folkloristic, grassroots, and citizen-driven inquiries is to complement, rather than replace, scientific knowledge. The folklorist Bert Wilson said years ago something that now renowned medical researchers are saying loudly to encourage citizen patients to help doctors understand things like chronic pain: People have a way of responding creatively to the circumstances they face. That is the bottom line of citizen folklore and citizen science: a fundamental appreciation that people observe their surroundings, interact with other species, negotiate changes in their environments, and adapt to variable circumstances, and that in doing all these practical living routines they accumulate bodies of knowledge that scientists and folklorists living outside those same predicaments may easily miss.⁶

Reliability

G: We cannot be blind to the frameworks of intellectual authority we work with. This reminds me of a story. So, one time we were doing a desert survey and one of our Seri collaborators, a vastly wise tradition bearer from whom we learned so much, Humberto Morales, said to our group of students from Arizona, “Oh, look! The ocotillo is in bloom! That’s the alert that sea turtles will be migrating into our water soon.” And one of the students laughed and said, “Well, the sea turtles can’t see the ocotillo, I mean why do you see a correlation there?” And Humberto, who was very smart, replied, “They are being triggered by the same global processes. I’m not saying that the sea turtle is seeing the ocotillo and is deciding to come up here, we wouldn’t be that dumb. We’re talking about the things that link us. Knowing the lore about the ocotillo is what alerts us to begin to look for the sea turtle.”

M: Wow. Right on. Reliability is a tricky subject for the university-trained mind. Sometimes I think what we are really saying when we question the reliability of stories people tell us about topics we’d rather be experts on is that there are certain things we’d rather not know, either because it does not fit into the scheme of how we imagine things ought to be or because the “talk back” hurts our egos. Sometimes, the knowledge shared by common people upsets the political ideals we have brought to bear into our research. For example, if you are a middle-class person who has benefited from orderly administrative procedures in zoning, taxes, labor laws, and police protection, it may come as a shock to hear that those same systems regularly fail or even injure poor people. When we confront these dissonances in the field, we retreat to our scientific mentality and question the validity of data [Chuckles]. Gary, remember when we worked on that project a few years ago with ranchers in the U.S.-Mexico borderlands? We heard the ranchers tell us about the problems they were having with their cattle on the border—from the undocumented crossers to the trespassing of human traffickers to raids by the Border Patrol. These guys were trying to

raise cattle in contested territory. And at the end of the day, whether these guys were espousing beliefs that confirmed points of view about the border by Right or Left intellectuals and activists, they knew what they knew. And I remember we found ourselves in the position of having to listen, because we had invited them to the table and now it was their turn to speak.

G: Yes, I remember. They knew what they knew. And so, this raises the issues of the political divide we see in this country right now, that rural and urban people vote differently and speak about issues differently. And sometimes I think that those divisions are so deep in the wounds that are still so raw and that is, in part, because rural people have had 40 to 50 years of experts saying, “What you know about your reality doesn’t count as much as what I observe.” I’m hoping that the gracious consideration of citizen science by academic and government scientists, and not to mention commentators and pundits of all kinds, can help heal that wound and there can be mutual learning, rather than this deep divide that is really ripping apart our country right now. That’s what my new book is about—*Food from the Radical Center: Healing Our Land and Communities*.⁷

M: One of the goals that advocates for citizen science express frequently, and I will say it is probably also true for citizen folklore, is to change the profession itself—Science or Folklore—to be more accountable to the people most affected by our research studies. But this leaves a door wide open for interpretation: Who should be accountable to whom? Should the volunteer researcher without formal training be accountable to the standards of the academic scientists/folklorist? Or is accountability a two-way street, and the scientist/folklorist must be accountable to the ones who hold the knowledge she wants?

G: Let me shuffle the question a bit. The critique I would have of accountability and veracity arguments is that, in a true sense, to do science that really matters we need to involve the participants in defining the problem we aim to study. If we want to change the way big Science or big Academic Social Science engages participants, we need to start by inviting people to our projects early, in the design phase. Together with the community we need to ask, “What’s the problem that’s most important here? What hypothesis are we testing? And after you collect data and compile it, would you like to be in the brainstorming session where we look for the patterns?” Instead, what we see is that many institutions ask participants—even those most affected by, say, environmental racism, where toxic material is affecting their families—to go out and get data for someone else’s hypothesis, and they are not even acknowledged on the papers that are published, necessarily. So, I think there’s a very interesting ethical issue here; but, more importantly, how do we involve the people who clearly are asking those questions in their heads? How can we include them in formative stages, not just in the data-taking?

M: I believe the folks who teach and practice participatory action research have done a good job at codifying the best practices in this area. The problem is that we have few mechanisms to gauge whether the participation levels are authentically horizontal or if it is only the rhetoric of participation that is reported in grants or press releases. There is a growing, beautiful movement now in something called equitable evaluation.⁸ Several large philanthropic foundations and professional evaluation associations are promoting this shift to create metrics that can allow us to determine whether a project in fact walks the walk of inclusive and equitable participation instead of just talking the talk we all love to hear. The idea is not to be the police of participation and make

researchers check off boxes, but to inspire an honest conversation about who and how someone benefits when we study a social problem.

G: Right, because many nonscientists and people in the communities where we work have wonderful life experiences in which they can do the critical thinking to say, “I’ve collected this data, but I’d like to see the pattern and debate with you what that pattern means.” And so, what we might say is that anyone hoping to do participatory science in the best possible manner is still carrying the baggage of our institutions with them. And those issues need to be resolved if projects are to bear the greatest fruit for everyone, not just for the university or the national society that eventually owns the data.

M: I think along with that we need to rethink how and where we publish our findings. In the work the Southwest Folklife Alliance has done, we have opted for a variety of formats—small pamphlets, monographs, Spanish translations, online journals. We have established agreements with our citizen folklorists for publishing the work they do and support them as well with a professional editor, because you may be a great observer but have difficulty getting your knowledge into writing. So, I think we try to think of ourselves—the professional folklorists—as coaches and capacity builders of the folks on the ground. I have even talked about a wraparound model, borrowing from the social work and clinical therapy fields. The wraparound must also consider compensation, even though the citizen science model is predicated in volunteerism, and one of its great benefits is the cost savings that may otherwise impair the research to take place at all. We also need to look at grant budgets through a lens of equity: Whose work are we declaring has more value with our budgets? And I am not in any way discounting the value of skilled specialists here. We hire academic ethnographers all the time to help support citizen folklorists on the ground. But equity really means distributive value. This is a horizon we have yet to conquer with regard to the insertion of community scholars into our projects. For too long science has been constructed in opposition to vernacular or folk or traditional knowledge, under a model of extraction. Even if we feel we are invited into communities, to participate as collaborators, we must also ask, what do I leave behind or reinvest or leave untouched because it’s the right thing to do?

G: That’s right. The good thing to emerge from the citizen science movement—and I hope it is what you are doing with the citizen folklorist concept—is that we are now in a better position to abandon the viewpoint that somehow citizen science is inferior to academic or government trained scientists. We need to honor all the contributions to knowledge that can help us save the planet with respect and consideration. That’s the only way we get alternative hypotheses and innovation, both about the past and the future.

Practice in Motion

M: I am encouraged by the increasing use of the framework of citizen folklorist to address the needs of communities. The Brooklyn Arts Council announced a series of training modules for community scholars in 2017 called Citizen Folklife with the tagline “Reclaim culture in your neighborhood.”⁹ The call for participants asked residents to sign up to become a Citizen Folklorist and explicitly stated it believed “the next stage of folklife documentation and advocacy” will be powered by the knowledge and media created, controlled, and shared by tradition bearers and their communities. This is an important benchmark for folklorists; to speak about a next level in folklife

documentation is also a way of acknowledging that some practices of the past are due for critical revision. Even though citizen folklorist sounds much like the extant practices of community consultation that folklorists and educators have used for decades, I find this more recent approach offers a new sharp edge of ethical engagement that moves the commitment to equitable participation a few degrees in the dial. The idea is not new, and neither is the spirit of collaboration with community members. But there is a heightened awareness about positions of authority in the new approach, reminiscent of the upending of roles and validity of truth claims performed by feminist folklorists and ethnographers a few years back.¹⁰ In a recent gathering we organized through the Southwest Folklife Alliance I was confronted with the qualitative difference that I am speaking about. The meeting gathered 45 Muslim women in Tucson in conversation around a shared dinner about end-of-life traditions. The professional folklore organization provided all the funding and logistical support for the event, but the entire agenda of the meeting was developed by hosts from the local Muslim community. The women had identified a list of questions to guide conversations at the dinner tables and served as facilitators and curators of the event. I was in attendance as notetaker at one of the tables. Other folklorists played the same role. Our role extended beyond the event as editors and publishers of printed and online materials, but the central driving force of the inquiry was powered by the community most affected by the topic. This was a rewarding experience that taught me a great deal about a subject I actually knew quite a bit about, yet having the intentional role as listener and behind-the-scenes collaborator offered a different perspective. After the gathering, one of the lead hosts told me how much she appreciated the definition of roles we had enacted and how clearly it communicated a shift on values—we aimed to serve the community, she said, and demonstrated this by trusting them to speak their truths freely. I wonder, how can we advance this practice in other settings, especially around more explicitly scientific inquiries?

G: I can see educators in other settings adopting some of the techniques of citizen science and citizen folklore to advance projects among students, residents, farmers, gardeners, and others. If I could offer a few simple guidelines to amplify the impact of these projects I would mention three key points. First, establish a large goal or umbrella under which many different topics or lines of investigation can fit, for example, “Climate Change.” By making the overarching theme large you create opportunities for many kinds of projects. Second, involve the people most affected by the theme: residents along a river or a coastline, hikers on trails, children in parks, and such. Third, resist the temptation to segregate the project team into data collectors and data interpreters, especially if the latter function falls to team members with academic credentials.

M: I agree. Theory emerges from the active process of interpersonal exchange and interpretation. Sit together in a room professional scientists or folklorists alongside community participants and study the patterns and deduce meaning out of the data collectively. In my view, this is the most important shift we can make. When we open this door, we also open ourselves to hearing the most wonderful tales of biological and cultural adaptation, often rooted in stories people have shared through generations.

G: These are forms of knowledge we cannot afford to ignore; as the world’s problems grow in complexity, we need all the help we can get, from anyone and anywhere, to make sense of our common dilemmas.

M: True. I am reminded of an emblematic story I heard long ago about the elementary school teachers in Tucson who were training in the methods of an anthropological concept called Funds of Knowledge.¹¹ This approach, like citizen science and citizen folklore, assumed that students in the classroom were not in deficit of practical knowledge about their life conditions; in fact, while they may have lacked arithmetic or reading skills, they possessed much savvy and expertise about a range of other practical living skills. One math teacher had a particularly hard time engaging students in the class activities. In the classrooms, her students seemed utterly uninterested in math. But one day while she was observing her students interact in the playground she discovered that one kid was bringing candy from Mexico on a regular basis and was running a makeshift import business among his peers. The same students who showed no interest in math class were quite adept at keeping accounts on how many candies they ordered, owed for, borrowed, and traded—in other words, all the practical applications of addition, subtraction, and multiplication she was trying to teach. This story and the Funds of Knowledge approach, just like several other key breakthroughs in folklife educational strategies, changed the way teachers saw their students and altered the pedagogies that were used in classrooms all over the nation. Citizen science and citizen folklore are the newest versions of this imperative to recognize the worth of people’s own capacity to make sense of their worlds.

Endnotes

1. See Ries, Leslie and Karen Oberhauser. 2015. A Citizen Army for Science: Quantifying the Contributions of Citizen Scientists to Our Understanding of Monarch Butterfly Biology. *BioScience*. 65.4: 419-30.
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8. Read more at <https://www.equitableeval.org>.
9. See <http://www.brooklynartscouncil.org/documents/2577>.
10. Behar, Ruth and Deborah A. Gordon, eds. 1996. *Women Writing Culture*. Berkeley: University of California Press; Lassiter, Luke Eric. 2005. *The Chicago Guide to Collaborative Ethnography*. Chicago: University of Chicago Press.
11. See González, Norma, Luis C. Moll, and Cathy Amanti, eds. 2005. *Funds of Knowledge: Theorizing Practices in Households, Communities, and Classrooms*. New York: Routledge. A discussion using the Funds of Knowledge approach can also be found in Porter, Maureen K. and Susan Dawkins. 2017. Children of Shangri-Lost. In *Journal of Folklore and Education*. 4: 56-70. Accessed at <http://www.locallearningnetwork.org/journal-of-folklore-and-education/current-and-past-issues/jfe-vol-4-2017/children-shangri-lost>.

URLs

- Citizen Science Organization: <http://www.citizenscience.org>
National Phenology Network: <https://www.usanpn.org/usa-national-phenology-network>
Southwest Folklife Alliance: <https://www.southwestfolklife.org>