Notes from the Field

An Outpost of Digital Hope: Frank Odasz and the Lost Promise of Grassroot Networking

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Abstract

This interview with Frank Odasz, a pioneering educator and technologist, chronicles the arc of rural community networking from its earliest days through the internet's rapid commercialization. Born in rural Wyoming and educated in California during the rise of Silicon Valley, Odasz's journey embodies the tensions and possibilities at the heart of alternative technology movements. His creation of the Big Sky Telegraph—a network for rural teachers and communities in Montana—became a touchstone for grassroots, people-centered computing long before the World Wide Web, drawing inspiration from the culture of early electronic bulletin board systems and colorful figures like David Hughes. Odasz's candid reflections illuminate how rural challenges—lack of infrastructure, skepticism toward digital technologies, and the need for self-sufficiency—fostered innovation, collaboration, and a vision for networked empowerment outside urban and corporate centers.

The conversation traces the successes and limitations of early community networks, the profound impact of technological shifts such as the advent of the web browser, and the complex consequences of the internet's commercialization and privatization. Odasz articulates both the promise and the losses: as the web grew, collaborative grassroots networks faded, supplanted by corporate platforms and new barriers to digital self-determination. His experiences teaching digital literacy in Indigenous and remote Alaskan communities, and his ongoing advocacy for inclusive, empowering uses of technology, challenge the field to reckon with both historical lessons and urgent contemporary risks—from misinformation to deepfakes and the social costs of digital divide. The interview offers essential insights into the history of computing, alternative technology, and the unfinished project of building equitable, community-driven digital futures.

Keywords: History of computing; Social history; Alternative technology; Community networking; Science and Technology Studies.

Introduction

How do communities on the margins of America's technological imagination harness digital tools to shape their own destinies? What happens when the wild, experimental spirit of early computer networking collides with the demands—and the disappointments—of commercialization and scale? These are among the central questions animating the career of Frank Odasz, whose decades-long work in rural and Indigenous communities represents a unique but representative experience of what historian Kevin Driscoll dubbed as the "modem world" of hobbyist bulletin board systems that flourish from the late 1970s through the early 1990s (Driscoll, 2022).

This interview, conducted in the spring of 2024, offers a rare, first-person account of the origins and evolution of grassroots community networking in the United States. Odasz's story does not begin in the bustling corridors of Silicon Valley or the rooms of regulators in Washington, D.C., but rather in Cody, Wyoming—a landscape defined, for Odasz, by wide-open spaces, self-reliance, and a deep sense of place. His early years traversing the American West, combined with stints in California during the formative years of the personal computer revolution, gave him a

unique vantage point: at once an outsider and an early adopter, aware of both the promise and the perils of emerging technologies.

The Big Sky Telegraph, Odasz's pioneering rural network, was both a technological and a social experiment. Built in the 1980s with limited resources but abundant ingenuity, it predated the World Wide Web and set the stage for later community networking initiatives. Drawing on the model of electronic bulletin board systems and supported by a constellation of kindred spirits—most notably David Hughes, known among the microcomputing community of North America as the "Cursor Cowboy"—Odasz and his collaborators envisioned technology as a force for local empowerment, mutual aid, and knowledge-sharing among educators and rural residents. (Leslie, 1993). Their work foregrounded issues that remain urgent today: digital access and literacy, the preservation of local culture, and the democratization of technology.

As Odasz recounts, the arrival of the commercial internet in the 1990s was both an opportunity and a turning point. The early ideals of open, decentralized, community-driven networking collided with the realities of corporate consolidation, regulatory shifts, and the rise of proprietary platforms. The same tools that once enabled rural teachers in Montana to share lesson plans and support each other became, in time, vehicles for social fragmentation, "bowling alone" rather than collaborating together. The borrow from Odasz's language in this interview, once-vibrant networks of rural telecommunication "trappers" faded as digital "settlers"—corporate actors and policymakers—claimed the terrain.

Yet Odasz's career did not end with the demise of Big Sky Telegraph. His subsequent work as an educator and consultant, particularly among Alaska Native communities and Indigenous groups worldwide, attests to the need for inclusive, empowering technology. Throughout the interview, he challenges us to remember that digital tools are not neutral: their impact depends on the intentions, values, and collective action of those who wield them.

In revisiting the history of community networking through Odasz's experience, this interview contributes to the social history of computing and the broader field of Science and Technology Studies. It invites reflection on what has been lost, what might yet be recovered, and how the unfinished project of equitable, community-driven digital futures remains as vital—and as contested—as ever.

Jacob Bruggeman: How did you get into computers? Was it just by accident? Did a family member happen to have a computer in the house?

Frank Odasz: You might regret opening the microphone for me this morning. I was born in Cody, Wyoming in 1952. I wore out two pairs of cowboy boots before my family moved away at age seven. What I remember about Cody is everybody was friendly, wanted to help each other, and that I needed to watch my behavior because everybody knew who I belonged to. We moved to Canada, Los Angeles, ended up in Mountain View, California in 1963 at age 10. Some of the kids called me a redneck. I didn't know what that was, and I never thought that living next to Yellowstone Park in one of the most beautiful places in the world was a negative. So, in 1963, I moved up to Mountain View, California, right next to Los Altos Hills. I went to high school at

Chester F. Awalt High School, which was one high school over from Homestead, where Steve Jobs and Steve Wozniak were busy creating blue boxes to hack the telephone system. Would I like to buy one? I knew somebody that knew someone who did. No, I have no need to make free long distance phone calls. Even though I basically have gone to 17 different schools in my career. 11 of which were different schools.

I was very used to being in new environments having to introduce myself. I graduated UC Davis 1974 with a Bachelors of Art degree in Psychology. I had the choice of being a computer trainee programmer for $5.80 an hour or working 24-hour shifts on the oil rigs in the wilds of Wyoming in winter time for the same amount, $5.80 an hour. There was no question there. I love the great outdoors. Greater, better than technology. And in 1974, there were no personal computers to speak of, there was no internet, there was no connectivity. I moved out to Wyoming, eventually became a dude ranch manager for a few years. And then that kind of went sideways. I went back to school at the University of Wyoming in 1982 to earn a master's in instructional technology, because I knew from the 60s that the internet was under construction. My goal was to learn how to make the living I wanted living wherever I wanted. As soon as the IBM PC came out about 1981, I jumped on the bandwagon, one of the first of four students to take this master's program.

JB: Were there any individuals or hobbyist groups that pulled you into community networking?

FO: Well, let's see, I heard about the Little Red Electronic Schoolhouse bulletin board system in old Colorado Springs, that you could dial into with a modem. (Hughes, 2011). Being online was not something anybody I knew could tell me about. And it sounded like if I was going to live and work anywhere, I needed to learn about this being online thing. I borrowed a 300 baud modem from the university and dialed in and basically saw educational efforts and resources from David R. Hughes, a retired army colonel, self-taught in computers at the age of 49, and called him up. Two hours later, I pried the phone away from my ear. My head was spinning. It began a 10-year mentorship. It kind of came down to David Hughes and I debating what would be the best we could do if we got funding and created a network specifically for rural teachers, leveraging the best technology available in 1982. At the time, many rural schools have party lines. But you couldn’t use a modem over party lines. The connectivity was poor. We bought 124 inexpensive modems and sent them out to rural schools. Half of the schools sent the modems back and said “that’s digital, we don't do digital. We don't know anything about it. We don't want to go there.” I wanted to change this. In 1985, I was hired at a 100-year-old teacher's normal school, which is like a rural teacher's college, Western Monta College, in Dillon, Montana, a town of 4,000. I thought, what a perfect environment to experiment with this online educational thing called electronic bulletin board systems, where you could create a free local online system where anyone could dial up and enjoy the benefits of asynchronous technology, meaning you leave a message, people read it at their convenience. You can have one to one, one to many, or many to many with convenience and efficiency. The only problem was 300 baud meant you could exchange short messages, but if you start getting into documents, it's problematic. I learned to write grants. By 1987, I had been funded to launch the Big Sky Telegraph to push the envelope. (Odasz, 1999).

JB: Take us back to the communities you learned from while building the Big Sky Telegraph, and the communities you sought to serve by building the BST.

FO: Well, in the eighties there were hundreds of bulletin board systems, there was a conference in Colorado Springs called BBSCon, where BBS operators came from around the country to talk about the state of the art. There was no internet access that citizens or libraries could enjoy. Hence Tom Grunder's belief that it was just a matter of who and when that libraries will inevitably become public access centers. So during the eighties, I was grant writing, we got the Big Sky Telegraph up and going, got initial funding, sent out modems, and David Hughes was on The WELL (The Whole Earth 'Lectronic Link) in San Francisco telling stories about what they're doing in rural Montana with one-room schools, and people at NSF and DC shook their heads and said, in Montana, the last place you'd expect something like this to happen, which made it the perfect place for David Hughes and I to see what are the best stories that we could tell. Well, we did a workshop with five Native American artists from five different tribes on Native American share art, where they could make money creating graphic art and people would pay a small fee for the intellectual rights to be able to use those images. (Rheingold, 2000, chapter 9). Again, we didn't have the World Wide Web, and I won't get into the technical details, but that was one of many, many firsts that we were involved with. 50 years ago, I was hooked on this vision, and this year [2024] is the 50th anniversary of Vint Cerf's TCP/IP.

JB: How did you think of BBSs in the 1980s?

FO: In the early 80s, BBSs were people-centered online systems, free, local, unlimited access. Bulletin boards that could interconnect and share messages automatically at low cost. Apple Computer co-sponsored two conferences on community networking with the Morino Institute, Mario Morino. The title was "The Ties That Bind," and Steve Cisler was a central person with the Apple Library of Tomorrow project. (Infomotions, 1995). I presented there with two innovators, one from Taos, New Mexico, who ran "La Plaza," which was one of the first rural web-based community bulletin board systems, and then Steve Snow from "Charlotte's Web" in the Carolinas. (See LA Plaza, n.d., and Wilcox, 2008). Both were online with the web in the early 90s, which was above and beyond where the Big Sky Telegraph was at that time. We did create a web presence, but we were primarily text-based because reading and writing is the medium that at that time was most doable and most affordable for rural teachers who often would make 12 to 14 thousand dollars a year, have something like seven students in seven different grades for which to prepare daily lesson plans, and had minimal budgets. The idea of conducting an online search and sharing resources and lesson plans, particularly with other rural teachers, had obvious potential. Those who had caught the vision jumped on it. I taught 10 two-hour lessons, forging the online trail, so that others might follow. I've been teaching online consecutively for over 35 years, creating new courses as things evolved.

JB: How important were conferences like BBSCon in the development of community networking? And to what extent was the technology advanced at these conferences?

FO: Well, let me give you a bit of a timeline. There was a BBS magazine called *BoardWatch*. (BoardWatch, n.d.) There were also a number of BBS conferences. (Foster and Jolly, 1993). The last one was in 1992 at the Broadmoor in Colorado Springs. Vint Cerf was there. At one session

where David Hughes presiding, over 100 people were in the audience. Hughes asked, “Everybody that runs a BBS stand up.” The whole room stood up. And then he said, you know, if you started this year or last year, sit down. And then he went through the timeline. And eventually, I was the only one left standing in the group, maybe one or two others, but the Big Sky Telegraph was one of the best known, earliest bulletin board systems, particularly championing the rural theme of self-empowerment. And, you know, so at that, at that same conference, I went over before Vint Cerf was going to present so I could introduce myself. And he said, well, you know, I'm getting ready to speak. And I said, I know that, but I just want to shake your hand and let you know who I am. A little bit later, I went over to where he was presenting. There was a second session, and the room was so packed, I couldn't even poke my nose in the door. And he was talking about worlds.net, which was like Second Life, a virtual experience. (See Worlds.com, n.d., and Jones, 2023). And I wrote that down. So then in my presentations going forward, I was able to show worlds.net and their automatic demo. And I got that right from Vint Cerf in 1992, when both he and David Hughes received an Electronic Frontier Foundation Pioneers Award for their packet switching work. David Hughes was into wireless packet switching radio. And TCP IP, of course, was Vint Cerf, which was the core platform for the entire internet.

JB: How did technological changes, like the rise of web browsers, challenge and change the community networking movement?

FO: By the next conference, ISPCon, BBSs were suddenly obsolete. We now have the World Wide Web. The IRS said you cannot charge for internet access if you're a public institution like our teachers college was. The $10 a month that I would charge people to have access to FreeNets and the internet, which was not the world wide web in 1992, basically meant that our potential income strategy just disappeared. I went through $1.4 million over a 10-year period, writing continuous grants with continuous innovations, STEM training for teachers, meant many different iterations. In 1997, just to jump ahead a bit, I left the university to become Lone Eagle Consulting.

JB: What did you do as a consultant?

FO: Lots of travel, presenting in 35 states, teaching online consecutively. And I continued to teach online for three different universities for recertification credit. But back in the late 1990s, a friend of mine had just moved to Alaska to be superintendent of an Alaska native village, Galena. (Chervokas and Watson, 1993). And he had started a charter school, the first charter school in Alaska, which within two years grew to be the largest school district in the state, because people could access the lessons online. And it was a big deal in Alaska. So I was asked to come up and do the first internet workshops for 11 Alaska native villages on the Yukon. and then began teaching online courses for the Alaska Pacific University Network, the Alaska Staff Development Network, ASDN. It was wonderful because I was talking to people that had real information access needs. I mean, we're not jumping from 2400 baud to fiber, just the opposite. We were crawling on our elbows doing the best we could with what we had. And I spent 20 years going back and forth to Alaska physically. Thank goodness, because I love Alaska. I mean, that's why my emphasis is rural, remote, and indigenous, because both the people and the places that I had to go to were just where I wanted to be. As Lone Eagle Consulting, I was able to go to many, many conferences, and literally I've been to dozens and dozens of conferences for EdTech, telecommunications in tech,

Indigenous innovations in tech in Mexico City, at the courtesy of Microsoft, in Australia, at the courtesy of the issue is online technology can allow the best education to be delivered almost anywhere on the planet.

JB: How do you interpret that changes in the technologies of community networking changed over time?

FO: Back in the early days with Big Sky Telegraph and FreeNets, you had to have a computer, know how to type, have computer literacy, and, you know, those were barriers where you get a BBS started in Cody, Wyoming, like the Bighorn BBS, and maybe a handful of people get online, but it's not like 2024 where everybody has a device in their pocket with high-speed internet and all kinds of tools. (U.S. Congress, Office of Technology Assessment, 1991). We did the best we could to model the technology as free, local, powerful for bringing people together if you have the big picture of what asynchronous text-based communications has to offer. During that 10-year period, David Hughes was busy writing articles for people in the Beltway and so forth, and I traveled with Steve Cisler of Apple Computer and we met with Tom Grundner and the Kellogg Foundation, Caroline Carpenter, and Tom was in the middle of, in Cleveland, the St. James Silicon Hospital BBS, which was the core of the FreeNets, and we were literally sitting around talking about the early days of community networking, where this could go, and where it needs to go.

Long story short, once the World Wide Web came out, bulletin board systems kind of fell by the wayside. And instead of being about building collaborative community capacity, as was the early vision for community networks, it was bowling alone and joining the creative class, but everybody doing their own thing. I remember once a teacher said, well, I'm online on the internet now, what do I need you for, Frank? And I said, well, the Big Sky Telegraph is a collaborative collective for rural teachers to learn from each other, to share lesson plans and to keep current as more and more computer-related software educational programs become available. And around the state. that there were some state-run systems that basically felt, I guess, a bit threatened by this small rural college, probably the smallest unit of our many units of higher education, as to, you know, well, they're getting all this national publicity and funding.

JB: The same period coincided with the commercialization and privatization of the internet. How did those developments reshape your work and the community networking movement?

FO: In the late 1990s, I went up to an economic development outfit in a community hub. And the first thing the guy said is, who do you think you are, Mr. Telecom or something? That attitude knocked me back on my heels a bit. My answer was, well, yeah, for the last 10 years, I've been evangelizing what is coming with the internet as faster speeds, better devices and software become available. Is saw the technologies as tools to channel the power of all of us, which was trademarked by eBay. I hope I don't get sued using that one liner. But yes, the corporatos, the telcos, and AstroTurfing all have a big role in all of this. AstroTurfing is where telcos like AT &T created fake grassroots organizations to lobby Congress and the FCC and to muddy the messages as to what's needed and what's possible. And I won't go into detail, but you can certify AstroTurfing. A lot of our grassroots voice was preempted by the top-down corporations. The issue is, how can rural America, grassroots folks, get the true story as to how self-sustainability can empower them to sustain their rural lifestyle and to keep up with the changing world?

JB: Did the downfall of community networking ever make you feel that the promise of the Internet had, in some fundamental way, been eclipsed?

FO: In the 1960s, Doug Engelbart at Stanford Research Institute (SRI) promoted the idea of computers as tools for augmentation. Augmentation means I can now use a word processor that auto corrects instead of using white out on my grandmother's black upright mechanical typewriter (which was where I learned typing). It blew people away to consider that computers and software could create co-intelligence across the spectrum of humanity. Englebert's co-intelligence never materialized. Steve Jobs and others viewed the PC as the end all, not the step to a networked society. Microsoft missed the internet; the head of IBM boasted that there was no market for PCs. But us grassroots folks realized that computing could make us into guides on the side, not the sages on the stage. We recognized that the dust clouds of the settlers were on the horizon, due to change the online environment forever. We were the telecom trappers, just like the early fur trappers, the bulletin board operators, the grassroots champions, the bottom-up folk.

And it was all about to change. And we held this meeting in a wildflower meadow in Wyoming. And there are about 20 people there. And it was to acknowledge among ourselves that our era was about to end, just like the 20 years of the telecom or the actual trappers. That was only about a 20-year period before the settlers overwhelmed. The fur trappers were friends with the Indians. The telecom trappers were friends with the grassroots and Native Americans. What happened was the settlers came in and overwhelmed the landscape, and it was the banditos in the in the corporatos that basically took over control. Society is still under the control of Facebook and Musk and others, such that it's time for a grassroots uprising for people to demand their freedom and equity.

For me, remote villages in Bush, Alaska were the perfect testing ground. And that's where I started in 1998, flying into villages of 40 to 100 persons that had just received a satellite dish to present to second graders and work my way on up to the teachers and ideally impact the administrators as well. So all of that was part of my theme of listening and learning from others, not presuming I have the answers. But to see how far I could lead them in this big picture vision of being able to, one, remain in the village with a gainful income, two, knowing how to preserve your culture in meaningful ways and to prevent the unnecessary risks from taking hold with the youth, things like unlimited access to porn, negativity, and the negative behaviors that proliferate now on social media.

JB: Your work on computers in rural and indigenous settings is fascinating. Was your effort exceptional or emblematic of the broader community networking movement?

FO: I remember one Crow woman leader told me about two guys in Pennsylvania who won a grant of $600,000 on our behalf, came and installed a computer, and left without showing us what to do with it. She said that her people didn't like white men behaved this way.

The Big Sky Telegraph was different. I used it to teach artists how they could become economically self-sufficient, anywhere, by creating art. I presented video conferencing with my friend Steve Cisler from Apple on Skype, at the very first meeting of the Montana Indian Business

Alliance. The technology worked well, and it was super simple. But the conference room was dead silent. People didn't want their pictures, videos, and art online. Over a decade passed before anybody did anything with this technology. But digital literacy has taken a generation to take hold everywhere.

At the time, I would also go to villages and teach second graders how to use an art program, how to use a digital camera, how to get online and search for animals at yahooligans.com, cut and paste those images onto a web page. I also went to a youth and elders conference in Koya Cook in 2006. I helped a woman Angela Huntington narrate her historical photographs and put them on a CD to distribute to the elders. Two hours later, we had something like 75 narrated photographs burned on CDs to hand out to the elders at that conference.

And in the year 2000, I wrote a "Native American Beginner's Guide to the Internet," which is a compendium of links to what Native Americans are doing to positively use the internet in their own way. (Odasz, 2000). All I tried to do was show what communities were already doing and put it in context. It was about sustainability and celebration but also protecting the culture. My question was always this: how can internet benefit rather than harm remote villages with precious few employment opportunities and dire demographics. And since getting started, I've presented in Australia, to Maori and Aboriginals, across Canada, including at Aboriginal conferences and community networking conferences. I'm pretty consistent in evangelizing the idea of everyone, both teacher and learner, both consumer and producer all the time.

JB: How did this development fit with your expectations?

FO: The Big Sky Telegraph was cited in four reports by the congressional office of technology assessment, cited for excellence by senators Conrad Burns and Max Baucus. We had Telco West fund it for $1.4 million over 10 years, along with Annenberg CPB. I thought that a faster internet and more computers would kick off a new wave of community collaborative capacity building. It was just the opposite. I couldn't get an audience. Nobody wanted to hear about it. PBS said that's old stuff.

JB: If anything, then, has the rise of Web and social media made you a techno-pessimist?

FO: Now that we're all interconnected, what's happening? We see undersea cables cut by warring factions. We see drones in swarms with increasingly deadly armaments changing the nature of warfare. We see bioweapons. It's really kind of coming down to either all people desire freedom, and we need to organize around that principle, and that we need to give to each other and build sustainable systems, etc.

But there are bad actors that are now being handed tools. You can take 30 seconds of my video and tools that anybody can get can create that thousands of cloned images of me speaking Mandarin, Chinese and Russian and propaganda in other countries. This isn't theoretical. This is what's happened in the last six months. Okay, if that now exists, then people are either going to be good actors or bad actors. And here's a figure for you. Eight billion people on the planet right now, what if just 1% have antisocial tendencies?

That means 80 million people with antisocial personality disorder and don't care about other people, who routinely disregard the rights and well-being of others. And how are we going to fight 80 million people that can make deep fakes? That's the existential challenge for humankind. Now, we don't have 50 more years. It's all happening right now. And, you know, that's kind of like whether it's a singularity in my (I'm 72) lifetime. I expect to see if we're going to make it or break it. Climate, warfare, deep fakes. We're soon going to be overwhelmed by negativity, hate misinformation—as if we aren't already. The dumpster fire is burning right now.

The Centre for Humane Technology has produced educational materials about the potential harms of both social media and artificial intelligence. So yes, I would have to say the promise of the early grassroot networks and the vision of people earning a living online from anywhere, including remote rural areas—yes, that is sadly a lost promise in today's high tech and polarized world. Big Sky Telegraph was an early online outpost, and we had big hopes and big dreams. Those hopes and dreams still do exist in the hearts, minds, and wills of many people today—so there is still a chance.

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