

Chapter Eight We live in a network of networks



Watching the rain puddles on a rainy day is a systemic metaphor for the Bill of Rights Act. Each rain puddle consists of wave fronts expanding from the center of a single rain drop. Each wave front is a system of how society treats people with developmental disabilities. Each wave front is a system of care, a network of relations aimed at producing freedom and wellbeing through innovations in behavioral sciences. At the center is the Act itself activating wellbeing for those in institutions. The first wave front for adults held in institutions was segregated employment like my business Dynatron. The second wave front was supported employment. Our research data of supported employment at NEC America showed us how

productivity and wellbeing was created not only by a job coach but by co-workers and whose support network dramatically improved the productivity of a supported employee. Following this data, we looked to start a new demonstration site. Jim Harper had encouraged businesses to participate in supported employment and now he led by example by inviting me to his company, Wacker Siltronic Corporation in (Wacker), a manufacturer of hyper-pure silicon crystal. We decided to approach Wacker directly without any supported employment model like the one we had used at NEC America. I abandoned the use of models, guides, frameworks and roadmaps as I realized that they were tools yes, but tools used to control social actions. After a couple of false starts, I met with a production manager of a Wacker silicon wafer processing area.

Producing Silicon Wafers and a New System of Employment

Bob Shaw was a production manager of the wafer production area I visited at Wacker and accepted my advice that we begin as we had at NEC America with me working in his department. I spent three weeks working on the day shift. I'd leave Eugene around 3:30 a.m. for the two-hour drive to Portland and begin the shift work at 6:00 a.m. The Wacker culture was *very* different than the culture of NEC America. Doug Pittman was a line manufacturing shift leader for the wafer annealing area I was assigned to. On my first day (which happened to be a payday), Doug introduced me to his team.

“This here is Fresh Meat,” Doug began, “and he’ll be working with us for awhile.”

Turning to me with a straight face, Doug asked, “Did you drive here today in a state car, Fresh Meat?”

“Yes,” I answered. STP employees were assigned cars from the state’s motor pool when working outside of Eugene.

“Oh good,” he said, then continued, “Did the car have a stereo radio? How about air conditioning, Fresh Meat? Did your car have air conditioning?”

“Sure,” I replied.

Doug wrapped it up, “Hey folks, lets look at our pay stubs. Now, down here at the bottom, see where it says Oregon State Taxes? Yep, all of us working folks are paying for Fresh Meat’s car. I’m glad he’s riding in style.”

This was going to be an adventure!

Whenever I tried to complete the job analysis and task analysis, Doug would pull me away from the job to attend a company meeting with him. I couldn’t imagine getting the job analysis done with all of the interruptions. I mentioned this to Doug one afternoon, and he pulled me into his office for a private meeting.

“Sign this agreement, Fresh Meat,” said Doug.

“Why?”

“Because me and the boys are going to give you the treatment.”

“Sure,” I said. I was beginning to enjoy Doug’s approach.

After I signed the agreement, he spoke quietly, "Now, I know we're going to hire someone from the joint." Wacker hired folks who had been convicted of crimes and sent to prison, so Doug referred to Fairview Training Center as the joint. "Now, I'm going to tell you that this program is going to be successful. I guarantee it. But, if you ever tell anyone here I told you so. So help me..."

Kathy Bloom, an employment specialist for the company, interrupted us, "We're ready for the meeting Doug." It was my first week on the job, and I had plenty to learn so I excused myself.

"No, no. You are the meeting, Fresh Meat," Doug said with a devilish grin.

Kathy presented me with a corrective action report on tardiness, laying out the details in my case.

"During first week at Wacker has been tardy 3 times and left early 3 times."

Action taken: "Written warning and referral to employment specialist."

Warning to employee: "Tardiness and leaving early are unacceptable practices.

Employees on day shift are expected to work from 0600 to 1500 hours. Further instances of tardiness may result in further corrective action up to and including termination."

Doug first signed the report followed by Kathy's signature. Then they gave it to me to sign. Kathy was playing it straight. "This is serious. New employees usually aren't tardy." I tried to plead my case, having to drive two hours just to get to work. "Well do you want to work here or not?" Kathy pushed the report toward me, so I marked it X and was never late again.

Corroborated Employment, Supported Employment with a Twist

I wrote a proposal for Wacker after three weeks of job analysis and sent a copy to Bob the Production Manager, Doug's boss. Bob had insisted that Wacker would not be participating in a supported employment project. He preferred the term corroborated employment, something he defined as "supported employment when you change it a little bit." A few days after I mailed the report to him, I received my own report back from Bob. He had edited my letter, crossing some words out here, adding new words there and then graded my report, "A-. Shows improvement. Could do better."

Employing people with a history of abandonment in state institutions was challenging in many ways. They required extensive support for work and personal needs. We demonstrated that their productivity could constantly improve in a positive support environment and followed United States Department of Labor regulations that allowed us to pay wages based on productivity. For example, if they worked at fifty percent productivity on a job that would pay ten dollars per hour then we paid them five dollars per hour. We used this system at NEC America. OESCO had the Department of Labor certificate and would pay the enclave workers according to their productivity then bill NEC America for the payroll expense. Bob called a meeting with Wacker's human resources director, Jim Harper and me.

I anticipated their approval and support of my proposal and imagined that it would require more documentation just as the NEC America proposal had before it was sent to their legal department. I was in for another surprise. Bob started the meeting.

"I see here that Dennis is proposing that we pay based on productivity."

Jim turned to me, “This is legal right Dennis? Isn’t this the same system you used at Dynatron and NEC?”

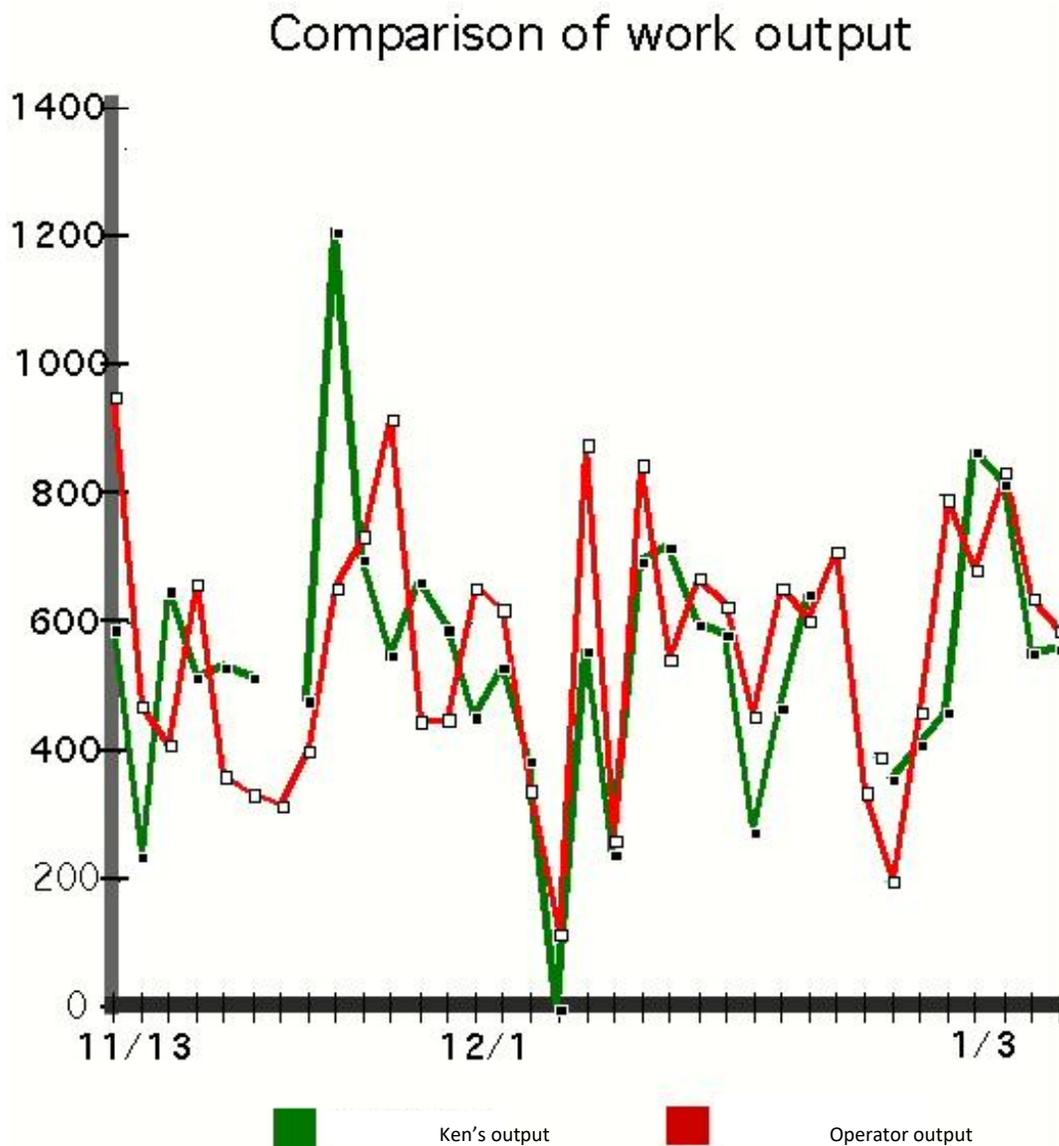
“Sure,” I replied, preparing to explain the Department of Labor’s productivity system.

Bob was incredulous. “So, Jim, we’re going to change the company’s entire payroll system for one employee?”

“Of course not,” was Jim’s only reply. In that single instance, Wacker accomplished the purpose of the 1984 amendment to the Act—to maximize the potential and productivity of people with developmental disabilities by shifting control and decision making from professionals to business managers and their employees, who, at Wacker, decided to treat an employee with developmental disabilities the same as any one else by paying them full wages and benefits.

Wacker hired Ken who had been held at Fairview Training Center for most of his life. Ken’s new co-workers at Wacker chose the wafer annealing process and trained him to operate it in a very short time. Wafer annealing was a heat treatment of silicon wafers. Silicon disks were loaded into a tray and then lowered into heated sand for some specified duration until the disks were cooled and unloaded. Like a dishwashing machine, wafer annealing ran for a long cycle while the operator loaded a new tray with silicon disks. While Ken was learning his new job, Doug would take me to company meetings or along on errands he had in Portland. Ken was doing fine during his probation. The collective wisdom of Bob’s decision to pay Ken full wages and benefits and his supervisor’s and co-worker’s support of Ken in wafer annealing training showed up in our first analysis comparing Ken’s production output to other operators.

Ken's productivity was one hundred percent. This output comparison validated the quality of the social support at Wacker and led to the end of Ken's probationary status. He was hired as a full-time employee.



Away from work, the wheel of deinstitutionalization was turning slowly. When folks like Ken want to leave institutions, it takes time for residential service providers to be identified and

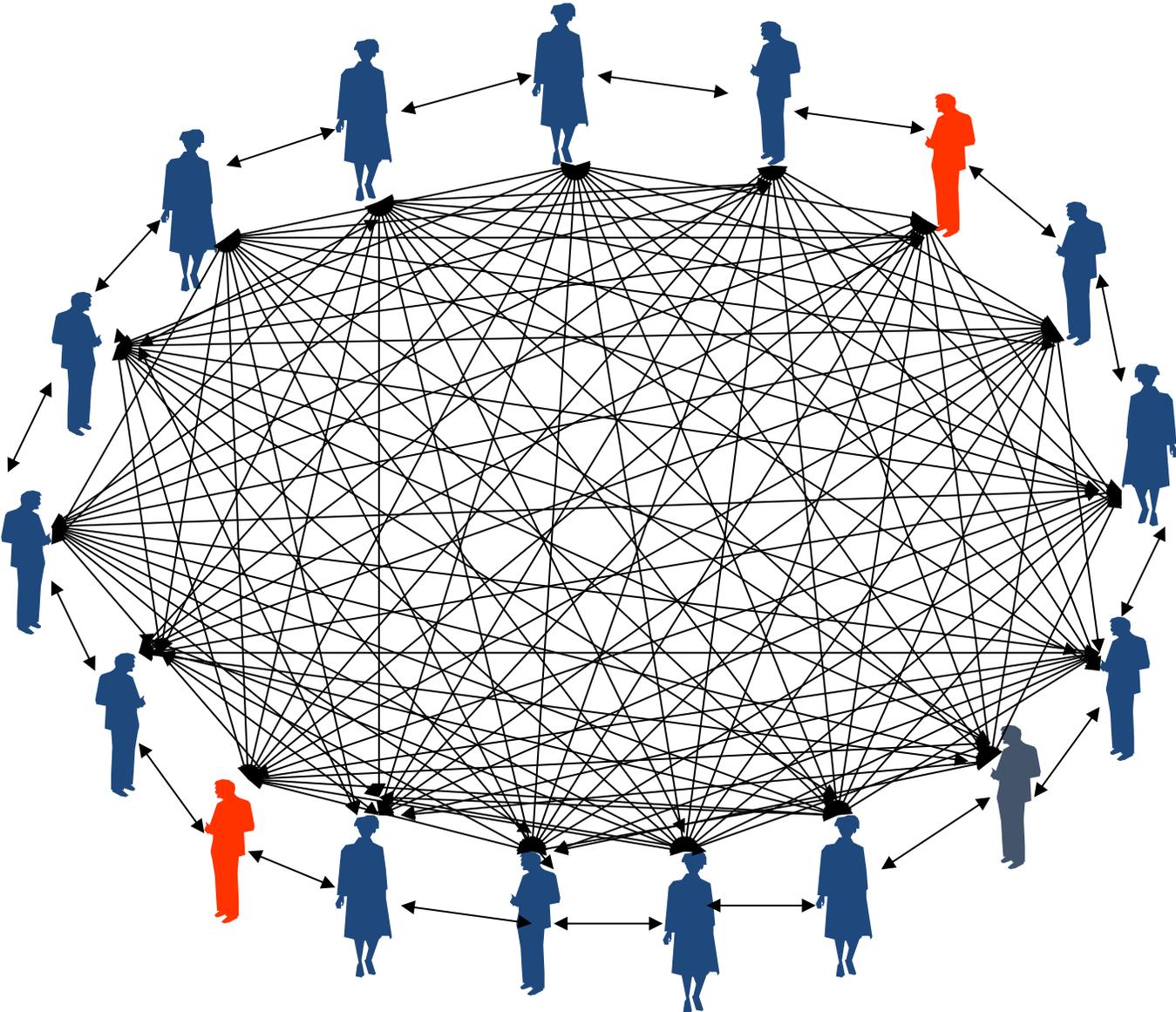
institutional funding to be transferred to the community. Doug came to me with a proposal only he could conjure up.

“How about me and a couple of the boys getting a few six packs of beer, jumping into our pickup trucks and driving to Fairview to pick Ken up and move him to Portland?”

I could imagine the scene and while it was tempting to see Doug unleash his “treatment” on the institution, I thought the risks associated with reattribution outweighed the benefits. A few weeks later, staff from Fairview packed over twenty years of Ken’s belongings into large green garbage bags and dumped them on the lawn of Ken’s new group home. Now I wished I had encouraged Doug and his friends to move Ken.

Friction between the group home and Wacker quickly intensified. Somehow, Doug didn't think it was right for them to control Ken’s finances, and the group home couldn't see any problem with Ken earning a paycheck and them spending it. Larry met with Ken’s family routinely and began discussing Ken’s residential services. Because of this fine work by Larry and Ken’s family, Ken moved into a condominium close to his family so he could receive the support he needed to live independently.

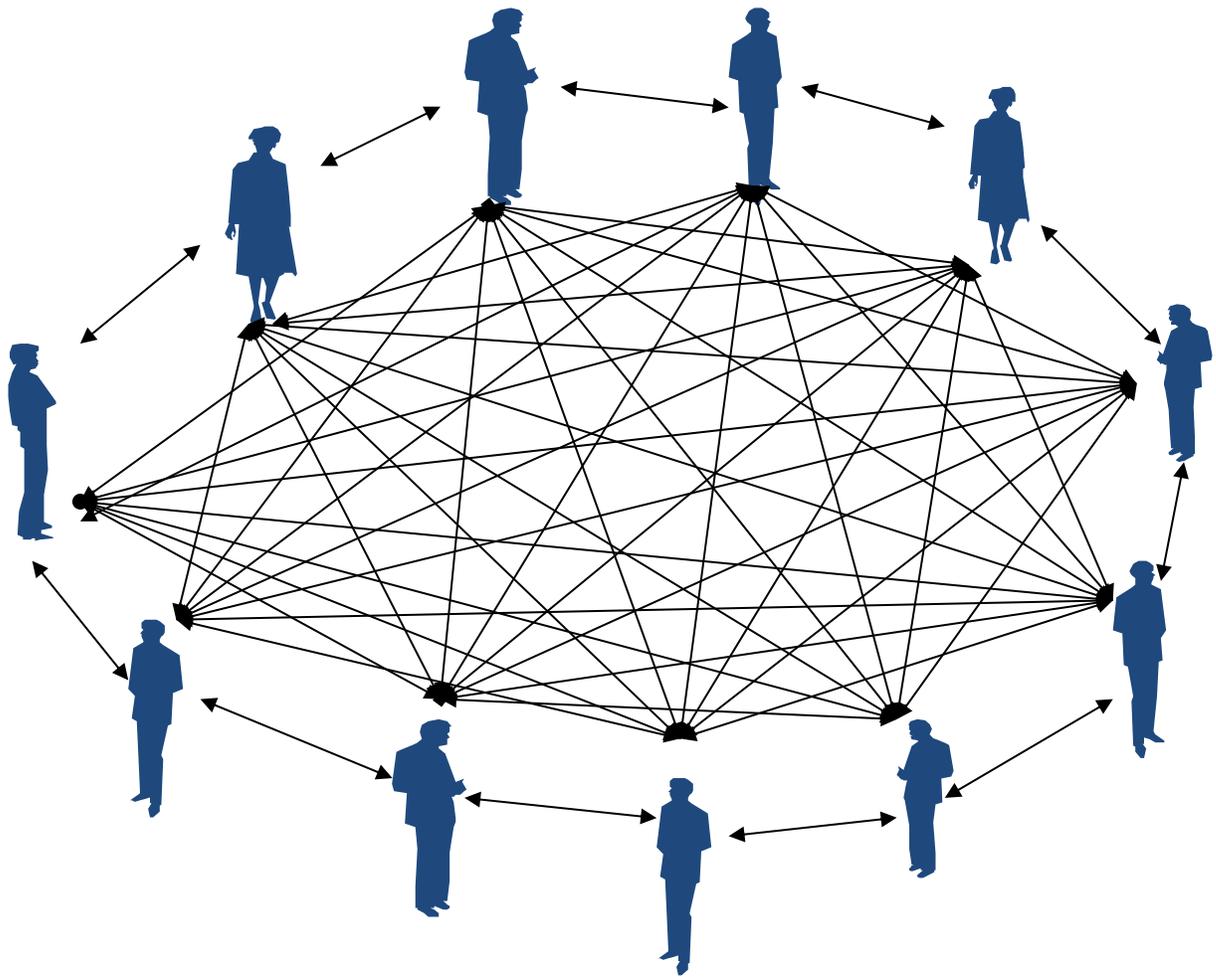
We studied Ken’s social support network by asking Wacker’s employees to list who they supported Ken with. The results broke a fundamental rule of social science—the separation of the observer from the observed—when workers listed Larry and me (color-coded red on the network map) as contributors to Ken’s support network.



April 1992 Support Network

This was a breakthrough – studying social networks had been transformed and become self-referential when Ken’s social support network data put me exactly where the Act wanted me to be. When I studied the language of preschoolers, I studied my own language. When I studied the productivity of people with developmental disabilities, I studied my own productivity. Now that I was studying social support networks, I realized I was studying my own social support network.

But what should we do? We observers had become the observed. So, we did what we asked everyone else to do and used the social network survey form to list those we supported Ken with. Then we mapped the social support network. The social support network structure of Wacker was similar to those at NEC America. Everyone in the support network identified everyone else in the support network as a legitimate supporter of Ken. Eight months later, we mapped the social support network again.



December 1992 Support Network

The reciprocity in the social support network had not changed. Everyone still identified everyone else as a legitimate supporter of Ken. However, the dynamics of the structure of the network had changed. Larry and I were no longer seen as supporting Ken, and the number of Wacker coworkers supporting Ken had changed from fifteen in April to eleven in December. The social support network's architecture was dynamic and constantly changing to support Ken.

Wow!

The Financial Impact of Corroborated Employment

Ken's coworker support network had accomplished what professionals could not. Before his work at Wacker, it cost the State of Oregon \$80,000 per year to house Ken at Fairview Training Center. Now Ken was paying taxes, earning 400% more in wages compared to the average wages earned by adults with developmental disabilities, and his social support network saved the public \$800,000. Wacker had changed the system of supported employment and, in eight months, created a new system that resulted in exemplary social and economic outcomes—exactly what the 1984 amendments to the Act called for.

Large Scale Systems Change

Whole-social-system change occurs when changes are so significant that the former care system evaporates into the mist of time, and a new system arises. Whole-system change does not occur when changes are made in the elements of the system but when the relational changes are such that the preceding system disappears as a new system takes its place. The eugenics social movement in Oregon lasted eighty years. Between 1900 and 1990 the social care for people held in Oregon state institutions went through four successive whole-social-system changes.

1907–1987 The system of custodial care and abandonment.

Fairview Training Center was established in Salem, Oregon, in 1907 as the State Institution for the Feeble Minded. Former residents of Fairview tell stories of being disciplined with leather cuffs, razor straps, cow whips, and put in isolation cages. More than 2,600 forced sterilizations took place at Fairview. Vasectomies, forced hysterectomies, tubal ligations, and castrations were ordered for those leaving the institution up through the late 70s. In 1987, the average daily population at Fairview was about 1,200, and the monthly cost of care was \$5,040 per person, paid for by publicly generated funds. Because Fairview offered no treatment, the financial return on public investment was \$0.00 for every \$5,040 the public invested.

1979–1984 The system of sheltered employment.

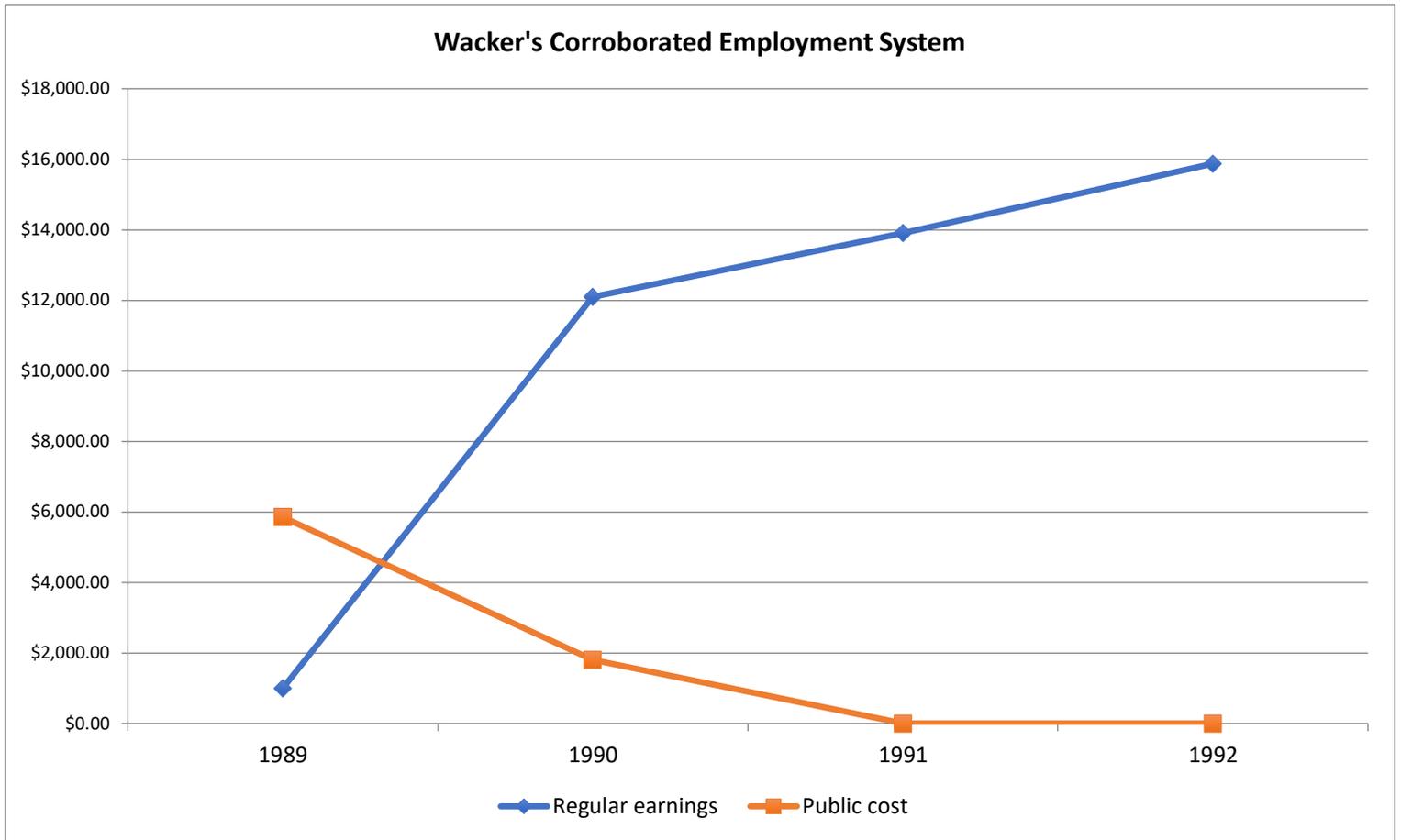
At Dynatron, I hired some of the most vulnerable people from Oregon's state hospitals including Fairview and Eastern Oregon State Hospital and Training Center. I used the scientist-practitioner approach to deliver evidence-based social care and collected daily data to continuously improve services. The data was used to support HB 3232's (the bill authored by our representative Tom Throop) successful passage of new policies that disinvested in institutional care funding and re-invested the funds in community care. In 1980, Dynatron paid an average of \$764 annually per person in wages and received an average of \$1,728 per person for our employment services. This resulted in a return on public investment of \$0.44 in wages for each dollar of public money spent. The evidence from the STP network of sister sites, including Dynatron, contributed to the creation of a new domestic policy called supported employment.

1984–Present The system of supported employment.

When it began in 1985, supported employment used public resources to fund job coaches working inside local businesses and supporting employees with developmental disabilities. The supported employment services' initial public costs related to job finding, job analysis, and establishing job coaching at around \$1,100 per employee. Once the supported employee was on the job, the support costs dropped to about \$350 per month and generated about \$360 per month in wages (Ramsing, Rhodes, Sandow, & Mank, 1993). The supported employment system generated \$0.76 in wages for every \$1.00 of public investment.

1990–1993 Wacker Siltronic's corroborated employment system.

As a University Affiliated Facility (UAF) our responsibility was to implement the current amendment of the Act. The purpose of the 1984 amendment was to assure that persons with developmental disabilities achieved their maximum potential through increased independence, productivity, and integration into the community (Disabilities, 2017). I was astonished by the value being created in dynamic, spontaneous, social-support networks. Our research showed that workers at Wacker created a new system of employment and that the company, along with Ken's family and Larry's support, had created a new system of residential social care. A man held at Fairview for most of his life was employed at full wage and benefit. Public costs were limited to the initial phase of his employment. The return on public investment constantly improved with this approach because the company supported an ethical network of social support and social caring. Public costs constantly shrank until they disappeared.



To increase the understanding of and expansion of spontaneously organized social support networks for people subject to the atrocities of eugenics would require a paradigm shift in how vocational rehabilitation professionals managed their investment of public resources (Ramsing et al., 1993).

Discovering Social Action Research

The rigor of social action research was emerging as I became conscious of the dynamic architecture of networks of networks of conversations. The Wacker employees' conversations were happening in work networks, administration networks, and support networks, to name a

few. Listing their attributes was futile because they were constantly changing. Lessons I had learned about individual and collective productivity taught me that simply listening to the positive happenings in a group improved productivity. I invented social action research as a relational flow of listening, understanding, trusting, and collaborating, listening, trusting, collaborating, recursively. I hadn't gotten my head around what was being discovered and I think, now, that this was an insight into understanding wholeness. We are multisensorial beings and feel things around us. I was feeling social systems, and by measuring their social and economic impacts, I was getting glimpses into their nature. Our health and human service research grant manager for the STP research on the social impact of supported employment asked for an explanation after seeing our data. "What is the theory behind your data?" He wasn't asking for a deductive- logical explanation. Instead he was asking for us to explain a new inductive theory shaped by our discovery research data from NEC America and Wacker Siltronic

Searching through the stacks of the University of Oregon's science library, looking for any insight into networks or systems, I came across an article written by three Chileans with support from the Biological Computing Laboratory at the University of Illinois at Urbana-Champaign. I was stunned. I sat down on the floor between the library stacks to immerse myself in the article after reading the second sentence.

At present, there is no formulation of this (living) organization, mainly because the great developments of molecular, genetic, and evolutionary notions in contemporary biology have led to the overemphasis of isolated components, e.g., to consider reproduction as a necessary feature of the living organization

and, hence, not to ask about the organization which makes a living system a whole, autonomous unity that is alive regardless of whether it reproduces or not. (Varela, Maturana, & Uribe, 1974)

The paper seemed to me to be validating some of the concerns I had about reductionism and separation in analytical approaches to understanding dynamic social networks.

Thus, instead of asking, “What are the necessary properties of the components that make a living system possible?” we ask “What is the necessary and sufficient organization for a given system to be a living unity?” In other words, instead of asking what makes a living system reproduce, we ask what is the organization reproduced when a living system gives origin to another living unity?

Behavioral and social psychology use research methods that distinguish between the dependent from the independent variables (Horner et al., 2005) . The research at NEC America and Wacker was teaching me the value of a very similar question to that of the Chilean authors: What is the necessary and sufficient network of relations for a social network to be a dynamic support network with value being realized by the employee with developmental disabilities, the public, and the participating employer? Because I was in the network providing support the question brought me back to the question I began asking at the University of Idaho preschool – How do I do what I do as a researcher studying wellbeing in order to conserve and expand wellbeing?”

Reading on, I was captivated by the distinctions the paper was making. “A complex system is defined as a unity by the relations between its components.” Yes! Focus not on the parts but on the network of relations amongst the parts that conserve the network’s dynamic social care and social support. Early in our studies of social support networks at NEC, I began to abandon social network analysis (analysis as a method for deconstructing systems) and as we were finishing our studies at Wacker, I was using social network mapping. And then this from the Chileans:

The autopoietic organization is defined as a unity by a network of productions of components which (i) participate recursively in the same network of productions of components which produced these components, and (ii) realize the network of productions as a unity in the space in which the components exist.

The authors invented a new word: *autopoiesis*—the self-producing processes of self-producing living systems. The word had to be invented because such an understanding of relational processes constituting living systems had never been explained in this manner. I remember my conversations with my colleagues in Eugene and Portland. One reoccurring conversation concerned the data we were collecting on social and economic effects and how we were collecting it. The other conversation was about autopoiesis. I had purchased a copy of *Autopoiesis and Cognition: Realization of the Living* (Maturana & Varela, 1980), and it was changing my thinking in a fundamental way. I was rediscovering the social space as no longer a three-dimensional space but a temporal-relational space while reading Maturana’s works and

both experiences intertwined in the creation of an understanding of social networks that was being validated by all those in support of the liberation of people with developmental disabilities.

We live in a network of networks

The notion of networks of networks was compelling. The UAF network of research on the impact of supported employment resulted in several publications and just as the Act's amendments called for social integration our co-authors tells the story of the expansion of our UAF relations. The integration of people with developmental disabilities had led to our integration.

University of Oregon Business School

The NEC America economic effects report, with measures of productivity, hours worked, absenteeism, social network productivity, and value to the company, was developed in collaboration with OESCO, NEC America, Dean Ramsing of the University of Oregon's Business School and STP (Rhodes & Sandow, 1990).

Multiple Research Methods

The NEC American social effects research was produced in a collaborative network including: experimental behavioral researchers (Storey, Rhodes, Sandow, Loewinger, & Petherbridge, 1991); qualitative researchers (Olson & Ferguson, 1991); social network analysts (Yan, 1988a, 1988b, 1991; Yan, Mank, Sandow, Olson, & Rhodes, 1991; Yan, Mank, Sandow, Rhodes, & Olson, 1993; Yan, Sandow, Rhodes, Olson, & Mank, 1993; Yan et al., 1990); scientist-practitioners (D. Sandow, Mank, Rhodes, & Taliaferro, 1991; D. Sandow & Olson,

1991; D. Sandow, Olson, & Yan, 1993; Taliaferro & Oorthuys, 1991; Taliaferro, Sandow, & Rhodes, 1993); and NEC employees (Taliaferro & Oorthuys, 1991). Out of the multiple research perspectives, I'm fondest of "An introduction to NEC America, Inc. Oregon Plant," the chapter Wendy and John wrote because of its coherence with the natural setting of the NEC manufacturing area (Taliaferro & Oorthuys, 1991).

Business Papers on Supported Employment

There was the STP network collaborating on the spaces between classical experimental behavioral research and data collected by scientist-practitioners, sometimes coauthored by business employees (D. Mank, Buckley, & Rhodes, 1991; D. Mank et al., 1993; D. Mank, Oorthuys, Rhodes, Sandow, & Weyer, 1992; DM Mank, Rhodes, & Sandow, 1988; D. M. Mank, Sandow, & Rhodes, 1991; Yan, Ramsing, Rhodes, & Sandow, 1989; Yan, Sandow, Rhodes, & Ramsing, 1989).

Quality Improvement Practices

Dean Ramsing was the lead author on how the field of rehabilitation could benefit from using continuous quality improvement in a paradigm shift (Ramsing et al., 1993). Joyce Dean and me were bringing our understanding of continuous quality improvement from electronics assembly to social services so the relations with Dean Ramsing from the Business School were a natural result of collaboration.

My good friend and marathon training mate, Jim Harper, published a paper also applying quality improvement to rehabilitation and listing proactive steps businesses and government could take in addressing the Americans with Disabilities Act (Harper, 1993).

School-to-Work Practices

When the Developmentally Disabled Assistance and Bill of Rights Act passed Congress in 1975, a companion bill, The Education for All Handicapped Children Act also passed. The transition of young adults from school to work was funded so communities could bring adults with developmental into employment programs.

Kathy Bloom (Wacker Siltronic Corporation), Robert Stalick (superintendent of Albany Public Schools), Kathy Schrock (volunteer administrator for Albany Public Schools), and I described strategies to increase network ties between schools and businesses for high-school students with and without developmental disabilities (D. Sandow, Darling, et al., 1993).

Puerto Rico Supported Employment Network

In our roles with the Specialized Training Program as part of the University of Oregon's UAF, Larry and I gave technical assistance to the Puerto Rico Division of Vocational Rehabilitation and summarized our findings in a paper written by Dorcas Hernandez-Arroyo and me with help from Enid Padilla, Armando Ramos, and Julio Aponte (Hernandez-Arroyo MA & Sandow, 1993). Enid and Julio convened community gatherings in communities like Mayaguez, Cabo Rojo, and Aguadilla promoting supported employment.

Business Management of Supported Employment

Kathy Bloom, employment specialist for Wacker, wrote a blistering critique of the professional bureaucracies. She began advocating for employment of people with developmental disabilities.

I am writing this article to express the conviction that social services must share the blame for high rate of unemployment of the people these services brand as having disabilities. Perhaps I should go further: the social service system must share the blame for the devastating stereotypes that the general public holds—stereotypes, unfortunately, that guide the actions of employers, too. (Bloom, 1993)

Doug Pittman, line manufacturing shift leader at Wacker, described his experience employing and supervising Ken.

No one on the manufacturing floor had any experience working with disabled people. As time went on, we found this fact to be an advantage. I explained the plan to our floor people several months before it was implemented. I asked if they would support it and if they had any reservations about it.

I expected to encounter some negative input from the employees. To my surprise, I met just the opposite. Here was a chance for the employees to actually see their work enhance another's situation.

I'm not sure that all of the employees were enthused with the project. Those who were skeptical, however, were mature enough not to impede the team's decision to proceed with the project.

The employees' attitude made a deep impression on me and taught me a valuable lesson in management. Asking, not directing, proved to be the key.

Hiring people with disabilities can be a smart move in today's business climate.

A person with a strong desire and personal interest to succeed, can and will.

False perceptions are destructive. Limitations imposed by social service agencies, business, or workers themselves are a hindrance.

Agencies, businesses, and people willing to take the risk are the true winners.

(Pittman, 1992)

A new system of social care at work

The folks at NEC America and Wacker Siltronic also created a new system of social care for people with developmental disabilities. Their narrative was very clear—they saw few issues in actually supporting people who had been abused and abandoned by the eugenics movement. The constraints they articulated, and they were significant, were in the social service system and how it portrayed and treated people it was meant to serve.

The employees, supervisors, and managers at NEC America and Wacker had met the purpose of the Act 's 1984 amendment. This is not to say that the two companies were becoming providers of employment services for people with developmental disabilities. In neither of the companies did we hear anyone express an interest in becoming a social services professional. In fact, Kathy Bloom wrote of her disdain for the service delivery system and its role in the creation of disabilities. There was something far more compelling going on. If the

epicenter of the Act was ending institutionalization, the 1984 amendment called for an integration of supported employment professionals, employers, and their employees. We learned that when professionals collaborate with business, the social and financial impacts of supported employment policies are far greater than the preceding segregated shelter care. We also learned that everyone contributed to social support networks that contributed to everyone's well-being. Our next responsibility at STP, as a UAF, was to create professional development events that more broadly disseminated our research findings. We invited Bob, Doug, and Kathy to join us in our annual Silver Falls meeting, as well as other conferences and workshops. This began a new practice as business and service providers united at Silver Falls to focus on their singular shared purpose, to improve upon the well-being of people with developmental disabilities. This speaks to the spirit of the professionals managing the Silver Falls annual meeting as well as to our business partners. Once the commitment to the well-being of those with developmental disabilities was realized, new comers at the Silver Falls annual meeting were accepted as legitimate contributors to the liberation movement.

Doug asked Larry and me to write him a letter of reference on University of Oregon letterhead. I told him we would be happy to. I put the letterhead in the typewriter, upside down, and wrote something like, "If you are reading this letter, Doug is probably asking you for a job. Please be kind and entertain him."

It was my turn to give Doug the treatment having learned that living well together generates social well-being for all who contribute to the generation of social well-being.

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