

## Remanufacturing Manufacturing Identities

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### Abstract

This is a narrative account of an effort to create a sustainability center at Bridgewater State College in Massachusetts. In addition to describing the genesis and intent of the project, the author considers some past efforts that did not succeed along with one that almost materialized. She is cautiously optimistic about this one in part because the external conditions are more favorable in that there is more interest in grass roots organizing for social, economic, and environmental change. Another reason to hope for success lies in the interest that the Commonwealth has in promoting sustainability at the college as well as the support of the new president and the championship of an associate provost. Beyond describing events leading up to the authority to plan for the opening of a center, the author reflects on the action as well as the approaches to change she and her colleagues have taken. She also engages in some meta analysis, presenting the methodologies that she employs.

### INTRODUCTION

#### Background Information

With President George W. Bush interpreting his 2004 reelection as a mandate, he tried to accelerate his process of reshaping the United States in the image of multinational corporations and their Christian fundamentalist allies. In keeping with that goal, he tried to redistribute resources even faster, taking them from the middle and working classes and handing them to those at the top. External events as well as internal pressure have slowed, if not totally stymied, the neoconservatives in their drive to impose their own agenda. Externally, the war in Iraq goes badly; the use of torture, secret prison, and the leaking of sensitive information; have laid bare the flimsiness of the policies as well as the corruption of the Bush administration. Internally, grass roots organizing is flourishing while political, economic, social, and environmental, activism now has a life of its own. Progressives are once again engaged at the local level and I am delighted to be part of this important current.

The local action that currently engages me is an effort to create a sustainability center here at my own institution, Bridgewater State

College. For the past year and a half, a number of us -- faculty and librarians partnering with operations and facilities personnel - have been engaged in a search for an alternative, sustainable, path to regional health. Last year, on behalf of all of us, I submitted a proposal to the president for the creation of the center. More recently I was asked to work with two colleagues to develop a plan for establishing it in the fall of 2006. This paper will focus on the center, the attempt to create it, and some concerns about making its work effective.

Although we still face bureaucratic challenges, I am, cautiously optimistic about being able to make a go of this sustainability center.. My qualified optimism is due in part to:

1. The change in the times. There is now a general social awareness of the need to engage in grass roots organizing in order to salvage any health that remains in the local economy, the environment, and the fabric of society.

2. Some major changes in my own institution. I believe we now have a critical mass of faculty, librarians, and staff who are passionate about restoring health here and whose work centers on such an effort. We also have some key administrators, including

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the president, who are aware of other efforts in the direction of sustainability.

3. The mandate coming from the Commonwealth of Massachusetts for its institutions to become sustainable. Our College is the only educational established to be included in the three that the state singled out to receive the services of a consultant who has helped develop a sustainability plan.

4. The analysis of previous efforts in a search for the causes of the failures. Hopefully, knowing the pitfalls will help us avoid them this time around.

5. My own graduate students have begun to put programs in place that the center will be able to adopt as its own.

To achieve the goal of sustainability, the center, once established will work to spawn and nurture programs that will help make this region of southeastern Massachusetts more vibrant economically, more restorative environmentally, and more sensitive to the social needs of all its citizens. To ensure its continuous movement in such a sustainable direction, we will place the locus of control in the hands of those who live and work here in a grass-roots effort to rebuild the region from the bottom up.

Despite an over-all commitment to a single, general vision of sustainability, however, those of us working toward this proposed center come to this project with different ideas about the economy, the environment, and the region as a whole. In addition, we hold a range of views on research methodologies and methods, as well as different thoughts about appropriate tools and approaches to use on the over-all problem of how best to stimulate organizational change. Differences such as these will, I assume, become even more pronounced once we move beyond our academic community into the world of business, government, and not-for-profits. As we proceed we will need mechanisms for resolving differences or, at least, for learning to work around them.

## Overview

At the moment, those of us involved in the creation of the center seem to be operating on a base of shared values and beliefs. With this paper, I am attempting to articulate them so that everyone involved has an opportunity to react to them. Some may not hold up to such examination. In the process of searching for the generally accepted base, we may will have to define and redefine what we do until we can agree upon a specific, shared agenda.

Besides providing a forum for articulating and creating a shared meaning for what we are engaged in, this paper will afford an opportunity to examine a range of alternative models for regional health.

Most important of all, however, the paper will present a narrative account of organizational change as it unfolds. The organization, in this case, is the region of southeastern Massachusetts, an organization without walls.

Before presenting the narrative that includes a brief history of the work leading up to the current effort to plan for the opening of the center, as well as some excerpts from the sustainability center proposal itself, I will expose some of the assumptions that underpin my own thinking about the project and the potential for change. These assumptions exist on the three different levels of the:

1. Action itself (the operating level)
2. Methods and/or approaches to change (the analytic level)
3. Change methodologies (the meta analytic level)

(I will use continue to use the colors I have chosen here to signal the level I am on in the rest of the paper.)

## **OPERATING ASSUMPTIONS, METHODS APPROACHES, AND METHODOLOGIES**

### Operating Level

On this level, my operating assumptions are:

1. The health of this region, like that of others, rests ultimately on its ability to produce desired goods and services.

2. Mature industries such as metal fabricating, farming and food production, fishing and fish processing must exist side by side with such new industries as bio and information technology. A sound mixture of old and new is crucial to a vibrant economy, a healthy environment, and high-end, secure jobs, all of which are necessary if there is to be social justice.

3. Old and new industries must be redefined and intertwined so that they meet the sustainability criteria of furthering economic well being, environmental enhancement and social justice.

4. As a corollary to these two, I believe that we must simultaneously:

a. Flesh out the new definition of each type of industry.

b. Use these definitions to create an alternative, new vision of a healthy economic, environmental, and social base for the region.

c. Find ways to improve practices within existing organizations and institutions so that they can begin to move toward this vision.

d. Develop mechanisms for finding and working with industrial partners who share that vision and are interested in working together to realize it.

### **Analytic Level**

The approaches that I rely on are an amalgam of participatory action research and community organizing. The former relies on tools and techniques described by William Foote Whyte, Max Elden and Mort Levin, Howard Becker, Helene Fine, and David Coghlan and Teresa Brannick. (Whyte, 1991; Elden and Levin, 1991; Becker, 1970; Fine, 1994; Coghlan and Brannick, 2005). The latter draws on the organizing efforts of Saul Alinsky as well as my own (Alinsky, 1989; Fine, 2005.) These approaches, in turn, rest

on the following assumptions:

1. The seeds of change toward a new type of manufacturing and food production are already here. To illustrate this contention let me offer the following:

a. A local division of a multi-national company that has been acquired by a French company must obey the parent company's directive to move toward sustainability in its product development, production processes, treatment of employees, and relationship to community. In addition it must begin to use fuel cells in its fleet of vehicles. This company will in turn make the same demands of its suppliers. We can help those suppliers conform to these new standards.

b. The Commonwealth of Massachusetts has directed our college to create a sustainability plan. The College has done this and begun to implement it.

c. Bridgewater State College is in the process of transforming its science building into a "green building".

d. The municipal power and light company in a nearby town has installed a wind tower that generates enough electricity to power all its streetlights. The head of that organization is in the midst of installing a second wind tower and is working with a private company to determine the potential for installing a third on a landfill. The Commonwealth of Massachusetts is providing funds for the study.

e. A local restaurant that I have been frequenting for years is the first of two certified green restaurants in the Commonwealth of Massachusetts.

f. Grad students have recounted stories of "ecopreneurs" that are developing construction materials from recycled plastic and that are using waste from nearby municipalities as their raw material.

g. A retired engineer, a banker, and a newspaper editor on Cape Cod created the Cape Cod Center for Sustainability ten years ago. They, in turn, created a center for sustainability indicators that enabled them to get a better grasp on the health of their community than they could get from relying on

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such standard indicators as the Gross National Product (GNP).

2. We can play a role in nurturing these seeds by bringing information about emerging market demands for sustainable products and production systems, resources for companies interested in meeting those demands, and perhaps even some technical assistance in doing so.

### Meta Analytic Level

My reflections on methodologies lead me to say that I generally agree with and make use of:

1. Michael Best's model of a mixed economy as I work in the field. Best believes that a healthy economy requires the use of market mechanisms sometimes and the use of administrative controls at others. The decision to use one rather than another should be made with reference to common social values. (Best, 1988)

2. The critical systems methodology described by Michael Jackson. With competing values among the participants and a range of methods and approaches to choose from the situation that we face as we embark on an alternative approach to economic revitalization is problematic. This requires flexibility and a willingness to stop repeatedly, reflect on what we've done, abandon a particular approach and try a new one as we move toward our vision (Jackson, 2000.)

3. The Daly model for a sustainable economy. It is clearly time to given up on growth as a measure of success and create a new paradigm for economic behavior. Daly has offered a very usable one (Daly, 1996.)

4. McDonough, W. and M. Braungart's suggestions for designing and producing in an environmentally restorative way (McDonough and Braungart, 2002.)

### THE NARRATIVE

### Some History: A Failed Attempt to Create an Electronics Recycling Plant

An engineer at Tufts University in search of an industrial partner for Hetzel, a German electronics recycling company, approached me for help. I, in turn, ran the idea by the CEO of an environmental technology start up company as well as a local union representative. Both thought it a good idea. The CEO agreed to explore the idea with me.

I then contacted a Rumanian American environmental engineer who worked in a materials reclamation and reuse company in San Diego. He responded with enthusiasm and an offer to fly out to help get our company off the ground. As he put it, ..."It's about time Americans start to think like Europeans...We can convert trash to treasure and begin to put some of those kids that hang out on street corners to work doing it."

With much unused factory capacity, a highly skilled workforce, union and industry interest, --- Southeastern Massachusetts would be a perfect place to start a satellite company. With the promise of expert help added to the mix, my industry friend and I were ready to go. We traveled to Tufts for an all day meeting with the two principals of Hetzel (both environmental engineers, by the way). In the end, we all agreed to try to move the project forward. Besides functioning as an outpost of the German Electronic reuse and recycling industry, this company could serve as a laboratory for students in much the same way that a lab school does for prospective teachers. At the same time, it could provide some high level employment to local workers. I quickly drafted a proposal and presented it to the President of my college as well as to some economic development and environmental management professionals. In the end, however, my CEO friend, the German engineers, the Rumanian-American and were the plan's only real champions. In response to a query about this project, the president of the college said, " Oh, you know Helene. She's always coming up with these new ideas," and proceeded to change the subject.

The environmental and economic development professionals told me to take the proposal to the regional marketing associations. Even the folks from Tufts lost interest.

Since the reason for recounting this failure here is to try to learn some lessons from it, I will now switch to my operating level, analytic mode to consider the reasons for the failure.

### **Operating Level Analysis of Failure**

The three major reasons for the failure to get this plan adopted were:

1. The time was not yet right.
  - a. The former president of Bridgewater State College had never heard of electronics recycling nor had the economic development professionals that I contacted.
  - b. There was not yet an interest on the part of the state government in such a project.

2. Unlike the situation in Germany, the electronics industry here has not been held responsible for their own obsolete products. As a result they still have no interest in establishing recycling plants or paying for their services.

3. Our own naivety. I later learned that the folks from Tufts had a hidden agenda. At the time they contacted me, they were in the process of developing an ISO 14,000 certification program and were looking for international clients who were interested in acquiring this certification in environmental management systems. They were trying to show the Germans that they were well connected to relevant industries.

### **Back to the History: A Near Success With a Fuel Cell Project**

The following is an excerpt from a proposal that I, with the help of some graduate students, developed and submitted to the Massachusetts Renewable Energy Trust in response to their request for a proposal.

### **Proposal Introduction**

Fuel cells show promise of becoming an alternative, more sustainable, source of energy. Yet they will need a greater research and development effort than we are currently making if they are to become more competitive. That higher degree of R & D effort will enable us to:

1. Decide which technology or technologies to use with the fuel cells:
2. Improve the production processes in order to bring down the unit cost and, hence, the selling price to the consumer.
3. Stimulate both citizen and consumer demand for increased government and industrial funding.

Such an effort will yield a more feasible set of products that in turn will help stimulate an increase in demand.

### **Project Overview and Goals**

The project is designed to help Bridgewater State College achieve energy efficiency while encouraging manufacturers of alternative energy technologies (as well as those that offer conservation services) to improve their products, their production processes, and their marketing ability. We will do this by forming a concurrent product development team and by serving as a beta test site to pilot test the technology. The test will enable us to uncover the "bugs" and either eliminates them or make recommendations to the industry for further improvements.

### **The Specific Fuel Project Objectives**

- o To create an internal, highly participatory, organization comprised of representatives from all Bridgewater constituents, from facilities personnel to administrators.
- o To create a partnership with government, developers and manufacturers of renewable energy technologies, and one of the electric grids.

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- o To design a pilot study to test both the effectiveness and efficiency of fuel cells at a specific site.
- o To collect and disseminate data on the test.
- o To lay the groundwork for a center that will help market the technologies.

### The Rationale for the Fuel Project

- o Bridgewater needs to become more energy efficient.
- o The manufacturers need to bring their production costs down if their products are to become more viable.

Bridgewater and the industry could both have benefited had we been able to create a showcase for this energy saving product.

Despite a year of lining up support from key people in the energy industry a process of shuttling back and forth to the funding agency that resulted in very positive feedback, we - and the local, start-up fuel cell company that joined us as a partner - failed to secure the planning grant that we needed. Once again, let me shift to my analytic mode.

#### *Operating Level Analysis for the Near Miss of this Project*

This time there was interest on the part of the administration in proceeding with the project and a close working relationship between the faculty, the facilities people, and some private industry partners. There were, however, three main reasons for the failure to receive funding.

1. The funding agency itself had a different agenda.
  - a. They were interested in funding something large and spectacular at one of the private academic institutions,
  - b. The head of this project had a vested interest in wind farms. He was really not interested in fuel cells.

2. The staff people in the funding agency

perceived Bridgewater as primarily a teachers' college (It hasn't been that for at least twenty years.) They kept trying to persuade us to apply for a "green schools" grant for a k-12 project. Since I teach graduate students in a school of management and aviation, this made no sense.

3. There was (and continues to be) a lack of understanding of the process for developing a new technology to a point of commercial viability. The importance of Bridgewater as a "Beta" test site was lost.

#### Return to the Present: A Sustainability Center for Bridgewater State College

The move toward a sustainability center at our college began last May. I am one of two coordinators for a Center to Advance Research and Teaching (CART). At the end of each school year we present a two-day celebration of faculty and librarian work. Last year, we devoted two sessions to sustainability. One focused on the greening of the campus; the other, on sustainability in the region. Attendance of faculty from all over the campus, librarians, and facilities and operations staff was overwhelming. Because of the interest in continuing, we formed a working group that began to meet during the summer. By the middle of the fall, we had agreed to work toward the creation of a sustainability center. This resulted in the proposal that I described above. Following is the executive summary that we have presented to the president and provost and circulated to some friends in industry.

Since it is too soon to have had a response, there are no results to analyze. I do feel, however, that we have a good chance to get a center, at least on a provisional basis. I'll state my reasons for guarded optimism here and let these serve the function of an analysis.

#### Operating Level Analysis

My near optimism stems from the following:

1. The time is right now.
  - a. Similar centers have sprung up in a number of places, but there isn't one near here.
  - b. The directive from the state came just as we were preparing our proposal.
2. We have the support of the State's Office of Environmental Affairs, some key industry leaders, the administration, and a member of the Board of Trustees.
3. We have a powerful advocate in the person of a new Associate Provost who himself has a professional involvement in and commitment to agricultural sustainability.
4. The coalescing of faculty and librarian and the passion that we all bring to this effort is impressive.
5. There is heightened awareness, since the election, of the need to act locally.
6. There is an understanding of the need to have the institution of a center to convince funding agencies of our credibility as a potential partner for industry.

## CONCLUSIONS

In terms of methods and approaches, I now have found potential partners who will join me in a participatory action research approach to working with local partners toward a sustainable region. At the very least, we will reach out to some small, local companies, and try to help them find a new range of products, develop a new base of clients and/or customers, make their production systems more environmentally friendly, and ultimately provide more higher end jobs.

At the Meta level of methodologies, I have some deep concerns. Up to this point the written and spoken word has provided the currency for eliciting support. I have been able to circulate drafts of position papers and proposals and gotten responses in the same

form. That is how we created a proposal and the proposal has done just fine as a vehicle. I do, however, think that we will need more once we begin the external action. I think that videos and dramatic presentations will better enable us to get word out and the message across. I think that visual documentation of results will also be crucial. I myself would welcome an opportunity return to the realm of multimedia presentations since that is where I came from. I don't, at the moment, see how I will find the time, but I will consider ways to make time as I proceed

## References

- Alinsky, Saul (1989) *Reveille for Radicals*. Knopf Publishing Group, New York.
- Becker, Howard S. (1977) *Sociological Work: Method and Substance*. Transaction Books, New Brunswick.
- Best, Michael (1990) *The New Competition: Institutions of Industrial Restructuring*. Harvard University Press, Cambridge.
- Coghlan, David and Teresa Brannick (2005) *Doing Action Research in Your Own Organization*. Sage Publications, London.
- Daly, Herman E. (1996) *Beyond Growth: The Economics of sustainable Development*. Beacon Press, Boston.
- Elden, Max. and Levin, Morton (1991) "Cogenerative Learning: Bringing Participation into Action Research." William F. Whyte, ed. *Participatory Action Research* Sage Publications, Newbury Park, pp.127-142.
- Fine, Helene (2005) "Buttonwood Park, New Bedford: From Conflict to Partnering." *Journal of Organizational Change Management*, 18:5, 469--481.
- Fine, Helene. (1994) "Participant Action Research: A Case Study of Community Economic Development in Chicago." *Public Administration Quarterly*, spring.
- McDonough, W. and M. Braungart. *Cradle to Cradle: Remaking the Way We Make*

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*Things*. New York: North Point Press, 2002. *Research*. Sage Publications, Newbury Park.

Whyte, William F. (1991) *Participatory Action*

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