

## **A Better World through Regenerative Studies? Implications of this Hefty Obligation on Education, Research and Outreach**

In my role as Director of the Lyle Center, I have been contacted by the media 3-4 times per year over the past couple of years to comment on the prospects for the “green job” market. Most of these articles for which I’m consulted seem to appear in publications whose only subscribers are dentists and doctors offices within the region, so next time you are waiting for an exam look for my name in the fascinating article about the green economy. It is certainly true that “green jobs” are considered to be at the forefront of this nation’s economic recovery – representing a blending of economic and environmental concern - and as such are receiving this kind of attention.

When I received my issue of the *New Scientist* this past week, there was yet another article about the burgeoning environment-related job market, although I was not consulted on this one. In this article, they present data that suggests the green job market is growing exponentially, and that opportunities were emerging in surprising places, such as the U.S. Navy (although students who accompanied me to the Navy Southwest Region headquarters last month should not be surprised by this). In this article, the scientific experts who were consulted stressed the “science” in environmental science, urging aspiring green workers to focus on the basics. Jim Yoder, Dean of the Woods Hole Oceanographic Institute was quoted as saying “I worry a bit, particularly at the undergraduate level, that some of the environmental science programs are kind of soft” (*New Scientist*, 2009, P. 53). Jon Foley, Director of the Institute on the Environment at my alma mater, the University of Minnesota, concurred, stating “I think that rigorous training in chemistry, physics, and biology at the undergraduate level is essential. We don’t

need a bunch of Pollyannas [meaning unrealistically optimistic individuals], we need people who can roll up their sleeves and dive into the problems" (*New Scientist*, 2009, P. 53).

The implication of these scientists, speaking in this scientific publication, is that scientific knowledge is a necessary foundation for solving environmental challenges of the 21<sup>st</sup> century, a point that is seldom contested, and one which I will not directly challenge here today. And their statements may be disconcerting for students in our regenerative studies program. Our faculty have consciously made the decision to admit students from a wide variety of backgrounds, many of whom do not possess a grounding the basics called for by Drs. Yoder and Foley. Our curriculum is necessarily "light" on physical scientific requirements, due in large part to its minimal unit requirement. So the conditions seem ripe for characterizing the MSRS program as "soft," one which is producing "Pollyannas" incapable of diving into problems. If this was the final word, I would indeed be worried about the fate of our program and its students.

But is scientific knowledge all that is required to solve problems in our society? Decidedly the answer is no in my strong opinion. In 2005 I attended the U.S. Chapter Meeting of the International Association of Landscape Ecologists in Syracuse, NY. This was a conference of leading scientists throughout North America concerned with the interdisciplinary field of landscape ecology. After a keynote address on the state of ecological conservation efforts by Dr. John Wiens, Senior Scientist for the Nature Conservancy, an interesting discussion ensued among the conference participants. Participants pointed out that we know far more about ecological structure and function in the landscape than we did 40 years ago (before landscape ecology existed as a construct), but that ecologically important places were continuing to be destroyed at alarming rates, climate change was continuing to accelerate, and that we were, in sum, no more effective at preserving and enhancing ecological function (at least on a global

scale) than we were before the explosion in scientific knowledge of the past half-century. Now this perceived lack of progress could be due to the uncovering of new environmental challenges as a result of new scientific knowledge, such as the climate change challenge. But the sense in that room of scientists in Syracuse, was that technical knowledge gained from scientific inquiry was insufficient in addressing environmental challenges facing contemporary society. Linking knowledge to action was of great interest to the participants, but they seemed ill-prepared to effectively make such linkages in a multi-cultural world – a world where scientific knowledge is simultaneously valued and marginalized by power structure with a multiplicity of interests. These are experts grounded in the basics of chemistry, physics, and biology as called for in the *New Scientist* article. As the only one in the room with a perspective grounded in regenerative studies I was struck by the sense of exasperation and frustration by the participants in the discussion, and their inability to conceive of how to address these challenges within their own disciplinary frameworks, or even the interdisciplinary framework of landscape ecology, which is dominated by physical scientists in North America.

At last year's faculty seminar, I presented a paper in which I argued that the future of regenerative studies was dependent on us establishing an identity for the field which is distinct and relevant (Brown, 2008). I argued that theoretical intent, namely the action-oriented nature of the field as it strives to proactively shape the world for the better, was a prime pathway to the establishment of such an identity. I believe that this action orientation is inherent in Lyle's original characterization of regenerative studies.

In describing his concept, Lyle (1994) offers a contrast to current, what he calls one-way throughput or "paleotechnic" systems, adopting the term of Patrick Geddes, that serve society and regenerative, or "neotechnic" systems that ensure a sustainable future. This emphasis on systems for achieving the

ultimate goal of sustainability is a fundamental characteristic of regenerative studies, and Lyle’s description invites inevitable comparison and reaction to existing social and physical structures of communities. This means that regenerative studies is an inherently prescriptive field, concerned with transforming existing societal structures in the interest of ecological enhancement, social justice, and future survival, The field is not content with merely understanding regenerative phenomena, but constantly seeks to learn how new knowledge informs the development, implementation and evaluation of sustainable strategies.

The notion of transforming society is an important one, which requires some additional discussion. In the discipline of planning, Friedmann (1987) argues that planning is fundamentally concerned with linking knowledge to action in the public domain, and that in order to meet this concern; planners must come to terms with their role in society. Friedmann describes multiple “traditions” that have emerged within planning over several centuries, which vary with regard to their theoretical intent, but that an important consideration is the whether the tradition strives to “maintain” existing social structures and power relationships or “transform” existing structures to achieve social enhancement, justice and equity (Figure 1).

In the interest of maintaining existing social structures	In the interest of transforming social structures
<ul style="list-style-type: none"><li>• Work within the system</li></ul>	<ul style="list-style-type: none"><li>• Working inside or outside the system</li></ul>
<ul style="list-style-type: none"><li>• Preserve status quo power relations</li></ul>	<ul style="list-style-type: none"><li>• Challenge existing power relations</li></ul>
<ul style="list-style-type: none"><li>• Promote incremental change</li></ul>	<ul style="list-style-type: none"><li>• Change for social enhancement, particularly justice and equity</li></ul>
<ul style="list-style-type: none"><li>• “The science of muddling through”</li></ul>	<ul style="list-style-type: none"><li>• Radical strategies</li></ul>

**Figure 1. Traditions of Linking Knowledge to Action in the Public Realm (After Friedmann, 1987)**

Some have characterized the social maintenance traditions as primarily working within the system to maintain status quo, with important incremental changes to keep in step with society, while the social transformation traditions are often characterized as radical strategies, typically working outside of the system to change society. Friedman, while his personal allegiances clearly lie within the transformational traditions, argues that each tradition is legitimate, depending on personal beliefs the planner has about her role in society, as well as institutional context. Furthermore, subsequent planning theory literature has demonstrated that transformational strategies can be achieved working both within and outside of existing power structures, although techniques may vary considerably.

In the case of regenerative studies, I would argue that Lyle's call for a neotechnic age to replace the paleotechnic era means that regenerative studies is fundamentally concerned with linking knowledge to action in the interests of transforming existing social structure and the power relationships that preserve them. In my years of advising prospective applicants to our program as well as students, the interest in making the world a better place is consistent. This is certainly not unique to regenerative studies, as students are generally an idealistic group. However, the near unanimity with which this group believes that our existing social structure are incapable of creating a sustainable future, strikes me as being unique and distinct. My anecdotal observations suggest that this characteristic is far less prevalent in landscape architecture for example, a field one of my mentors once described as an "instrument for the ruling class."

## **Implications**

So if we accept the notion that regenerative studies is concerned with transforming existing social structures in the interest of creating a sustainable future, what are the implications for our curriculum?

It suggests to me that action, and the linking of knowledge to action, should be emphasized as a key component of our curriculum. This allows students of regenerative studies to assert a unique relevance within the “green job” arena in contrast to environmental scientists, and serves to counter claims that the program is “soft” or filled with “Pollyannas” because of its lack of scientific prerequisites or significant physical science content as part of its core. In fact I would argue that those lacking background in social mobilization, policy development and analysis, and judgment cultivation in decision-makers, are the ones who are unrealistically optimistic about their impact on society, as experienced by the landscape ecologists gathered in Syracuse. While the first quarter of our curriculum provides foundational physical and social science content, courses in the 2<sup>nd</sup> quarter of the curriculum, Coalition Building and Methods and Applications, emphasize the linking of knowledge to action, and are critical to the identity of regenerative studies. These courses are unique to regenerative studies, typically not found in environmental science curricula or other fields competing for “green jobs.” However the importance of these components may not be effectively recognized by our faculty, or communicated in our literature and advising concerning the program.

Secondly, what are the implications for our research, demonstration and outreach efforts at the Lyle Center? Forsyth (2006) described seven types of university centers, a typology I have found useful in considering the role of the Lyle Center (Figure 2). In the interest of creating a broad and flexible identity, I have routinely described the Lyle Center as an “Umbrella/Convening Organization” that provides support for a number of independent research and outreach initiatives by individual faculty and students. Forsyth describes such centers as “basically an infrastructure and its focus comes from the sum of its parts. Some of the largest and most productive university-based urban centres take this form. While they can be accused of lacking focus, by being umbrellas they can take advantage of

emerging opportunities and draw on the energy of faculty and students in a way that is not constrained by an overly narrow mission statement” (2006, P. 101). In many ways, this typology was adopted as a reaction to the operating conditions of the Lyle Center and the need to increase visibility and connections within the larger university. In fact I have often made connections between research/scholarship projects and regenerative studies, even when the authors themselves have been unable to do so. But is that because I have a better understanding of the field, or is it because I am unfocused, or even more to the point, opportunistic when it comes to using others work to further the visibility of the Center?

Center Type	Focus
• Research Center	• Innovative Research
• University-Based Firm	• Paid Practice
• Community Advocacy Center	• Social Equity and Inclusion
• Extension	• Technical Assistance
• Studio/Lab	• Work of a Key Figure/Leader
• Clearinghouse	• Public and Professional Education
• Umbrella/Convening Organization	• Support of Multiple Projects

**Figure 2. Types of University Centers (Adapted from Forsyth, 2006).**

I have argued that the future of regenerative studies was dependent on us establishing an identity for the field which is distinct and relevant, and that theoretical intent, namely the action-oriented nature of the field as it strives to proactively shape the world for the better, was a prime pathway to the establishment of such an identity. In light of this, should our approach to research, demonstration and outreach change? Should we focus our research and outreach agendas to more closely align with the

qualities that distinguish and identify regenerative studies (whether these qualities are those presented in this paper or others which are determined through ongoing discussion)?

Perhaps more interestingly, how should such identity inform our demonstration efforts, meaning the on-site activities which aim to expose visitors to regenerative studies? While we talk about the need to integrate human behavior, community processes and ecological context with sustainable technology, our programs, namely our on-site tours, have historically focused on technology, the built environment, energy, food, water and waste systems that characterize regenerative approaches. This is easier to demonstrate than community processes, and is what visitors expect to see, as they are acculturated by the growing number of demonstration gardens, sustainable showcases, and exposure to green technology in the media. However, as we have learned, this is expensive, and requires significant capacity to remain current on latest technologies. Frankly put, we have not done a very good job over the years at maintaining our cutting edge and competing with other venues that highlight green technologies.

Now, we could certainly re-double our efforts and develop the capacity to compete in demonstrating cutting edge technology. Building this capacity is certainly a reasonable expectation of the Director's role. But as we examine this question of identity for regenerative studies, I wonder if we shouldn't also examine the role of demonstration in furthering the Center's mission. If our goal is to proactively shape the world for the better, should we be exposing random visitors to the latest gadgets in hopes they might utilize that information? Or should we be more strategic in our approach, considering which audiences should be targeted for demonstration (perhaps those best positioned to help transform society and make the world a better place), and what information may influence their decisions about shaping a sustainable future? Such an approach might suggest very different strategies for different

audiences: children, elected officials, practitioners, and homeowners. It might also suggest a re-  
invigoration of the idea of demonstration in general: one focused more on problems and processes to  
solve them, as opposed to the resulting technological artifact or commodity. I believe this was always  
the idea of the Lyle Center demonstration mission, but the process approach suggested by the term  
“living laboratory” is challenging to implement and sustain over time. It may even bring the entire  
notion of tours, which have long been integral to our demonstration efforts, into question.

No doubt, this talk reflects my on biases and disciplinary perspectives through which I view regenerative  
studies and our work at the Lyle Center. I raise the issue of identity for regenerative studies and  
questions about the implications for education, research, outreach and demonstration, in the hopes of  
generating discussion, challenges and alternative concepts about these ideas amongst the Lyle Center  
students, faculty and staff. I look forward to hearing your thoughts about these issues today, and hope  
this will be the beginning of a dialogue we will undertake in winter quarter, as we develop strategies for  
moving forward with our mission.

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