

From Architects to Privy Carpenters - The Decline of the Land- Grants and Extension

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Where we are going

- a little about scientific practice and good science
- a little about relevant science
- the Land-Grant principle
- a little about generating and garnering support for extension programs
- the AKIS moving from architects to privy carpenters
- implications for extension and Land-Grants

Good science – scientific method – philosophy of science

- Logical positivism – falsification - Popper – if it is not testing fundamental theories it is “hack science.”
- Politics of publishing – gate keepers – universities really only affirm what the “community” of science approves.

Where Applied Science Fits

- Popper and Kuhn agree on falsification
- Kuhn – but when is an experiment a test of a theory or a test of the skill of the scientist
- Kuhn – solving puzzles – measurement, etc.
- Johnson and Zerby – can't solve real world problems without use of theories.

Johnson and Zerby on Objectivity

- Objectivity is necessary in solving real world problems in order to remove personal values and beliefs, including about theories.
- Conditions for objectivity in selection of concepts (theories) for practical problem solving:
 - Consistency – with other knowledge – internal and external consistency – math modeling
 - Clarity – clear and specifiable meaning
 - Workability – works to solve the problem – pragmatism – flat earth and light movement

Improving the skill of the scientist *a la* Kuhn

- Applied problems don't allow testing of fundamental theories – they are messy, not of the scientists choosing, and they demand solutions (workability).
- Schon on epistemology of knowledge from practice:
 - Knowing in action - knowing the phone # by the key pad position sequences
 - Reflection in action – overcoming a skid in a car
 - Reflection on reflection in action – game films
- Ladd – “Artistic Research Tools for Scientific Minds”
 - Subconscious techniques like imagination and intuition
 - Luck including serendipity
 - Writing as a creative research technique

Applied (engaged) Science is Good Science and Improves Scientist Skill and Scientific Practice

- There is little basis for the prevailing views of applied vs. basic or theoretical science/scholarship.
- Boyer is right

Relevant Science

- Bok's concern that university engagement would threaten "more profound obligation that every institution of learning owes to civilization to renew its culture, interpret its past, and expand our understanding of the human condition" (Bok 1990, 104). – *noblesse oblige*
- Kellogg Commission – "Returning to Our Roots – The Engaged Institution" - peoples' universities
- Consulting
- Corporatization of the university – "What's good for GM . . ."
- Engagement is a commitment to relevance (how to institutionalize?)
- Who sets the scientific agenda?

The Land-Grant Principle –

a principle of institutionalized engagement

Synergistic power derives from scholarship practiced where tests of workability and relevance are institutionalized – the power of engagement.

Further synergy is generated when access to the knowledge is assured for users who will find it useful in their lives.

Some of the power from engagement and access to knowledge is intellectual by virtue of the contribution to both the quality and relevance of the science practiced.

Other power is political, resulting from the engagement with users of the knowledge, the access they have to the scholarly product, and the usefulness of the new knowledge to them.

Conditions necessary to generating and garnering support for extension programs (institutionalizing the workability test):

1. Generate a positive net-benefit
2. Benefits must be attributed to CES
3. Must be able to solicit and collect support from clients for good programs delivered
4. Costs to clients of giving support must be less than past and anticipated benefits

Agricultural Knowledge and Information System (AKIS) - A Case Study of Institutionalized Engagement

The US Land-Grant Colleges of Agriculture system was revolutionary in the history of higher education in three ways:

- the classrooms and degrees were accessible to the working classes;
- the agenda of scholarship considered no subject beneath its purview; and
- access to new knowledge was provided to those who would never qualify nor want to be in its classrooms.

AKIS Performance

- Rates of Return on investments in agricultural research and extension 20% - 40% per annum (Gov borrowing max 15%) Alston and Pardey 1996
- Golden Age 1950 – 1960's – US ag could compete with anyone in the world as well as judged most productive sector of US. Huffman and Evenson 1993
- Ag Extension – Judged to be most trusted source of new knowledge in the society. Feller, Madden, Moore, and Sims, 1984.
- Ranked first of all the United States' compelling scientific achievements contributing to human development and welfare in the 20th century. Miller, 2001

Sounds like an architect

The Agricultural Knowledge and Information System – from architects to privy carpenters?

Cooperative Extension (AKIS) held hostage

- Over the life of the Land-Grant AKIS 1862 – 2004 ag. producers have declined from +/- 60% to 2%.
- Land-Grant university portfolio's have broadened – all are Doctoral/Research and 44 are D/R extensive.
- In 1992 (last year of national data) ag. extension was 47% of extension portfolio.
- Most CES is still under the college of agriculture. (Texas Ag Extension until 2001)
- Ext. Director carcasses everywhere for trying to broaden.
- Legislative initiatives to limit the extension portfolio – Virginia and Minnesota (2002) – ag. agents.
- The spiral of declining resources
- Ask Dan Sumner if US farmers thought they owned him

AKIS held hostage is not evidence of status of privy carpenters.

The test of whether the AKIS is behaving as privy carpenter is whether it is mostly giving farmers what they want rather than what they need!

What they need.

- Information related to factors affecting farm profitability:
 - Local, state, national, and international policies affecting agriculture;
 - Performance of firms and institutions serving and regulating farming and agricultural markets--both public and private, both inputs and commodities;
 - The performance of national and international markets;
 - On-farm technology and its management; and
 - How to integrate these into strategic business management.

What they want and don't want.

- David Kenyon, Dan Brand and the Virginia corn growers
- Ground nuts in the US
- Tractor seat information

**What are farmers getting
from the agricultural
knowledge and information
system?**

Agricultural Extension Content

Primary focus of agricultural extension is on-farm technology and its management

Extension specialist FTE's directed at on-farm technology as % of all Ag Extension specialists

Virginia	89 % (2000)
Minnesota	72% (2002)
Colorado	65% (2004)
Iowa	69% (2004)
Kentucky	86% (2004)
California	??% (2005)

Add county staffing patterns and the emphasis is overwhelming.

Agricultural Research

National Research Initiative % of resources

<u>Category</u>	<u>FY99</u>	<u>FY 00</u>	<u>FY01</u>	<u>Avg</u>
Nat' Res & Env.	17.2	17.2	16.5	17.0
Nut, food qual, hlth	13.4	13.4	17.1	14.6
Plant Sys	34.4	34.4	32.8	33.9
Animal Sys	24.3	24.3	23.3	24.0
Mkts, Trd, Pol	3.9	3.8	3.7	3.8
New Prod and Proc.	6.8	6.9	6.6	6.8

Allocations of \$112.1 million annual avg.

$$\text{On-farm} = 33.9 + 24.0 + (1/2 * 17.0) = 66.4\%$$

Implications for AKIS

- 1999 Dairy Extension Specialists on who has the best dairy extension program in the US
 - Monsanto On farm technology will increasingly come from private sector – Roundup ready, etc.
- Public AKIS should be doing “architecture” in agricultural science.
- Bottom line – “The End of Agriculture in the American Portfolio” and the demise of the AKIS particularly CES

Conclusions

- Engagement is powerful – see the Land-Grant principle of engaged scholarship and our history
- Not all engagement is good for the academy –
 - excessive consulting,
 - corporatization of research funding,
 - any partnership that leads academics to behave as privy carpenters.
- Cooperative Extension – has been captured and held hostage
- Cooperative Extension thus unable to serve to institutionalize engagement across the total portfolio of the university.
- Other means to institutionalizing engagement must be found

JFA Taylor, *The Masks of Society*, 1966

In its relation to society the university's function is, in the first instance, to provide the means to ends which society has chosen for itself.

But it is a lame architect who houses an activity without civilizing it.

You do not sensitively house the life of a man by providing only for the movement of his bowels, and if in seeking to serve his needs you search out only the known needs which he declares and will think to define, that he needs a kitchen and a place to lay his head, you will serve him very ill indeed.

He buys the services of an architect; you give him the services of a privy-carpenter.

Thank you very much!

Let's talk about it!