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I-Schools: Mice Roaring or the Future is Now Arriving?[1,2]

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Through this essay we develop an argument for supporting the growth of I-Schools by building on the literature and concepts of institutions. We first argue that I-Schools, and the I-School movement, can be seen as engaging in a process of institutionalization. That is, they are seeking each and collectively to become self-sustaining and enduring social units. To support this argument we draw on the literatures regarding institutions and institutionalization. We do so to help clarify what those involved in the I-School movement might need to do to encourage the process of I-Schools becoming become enduring and self-replicating forms of organization in the contemporary university milieu. The literature on institutions and institutionalizing is vast, active, and multi-threaded. In this essay we draw from, but do not summarize or extend this work. We draw on concepts from institutional theory to frame our thesis: *what can those involved in I-Schools do to encourage the growth and legitimization of these scholarly institutions*?

On becoming an institution

An institution is a representation of a social order or pattern, continually reproduced, which owes its continued existence to relatively self-activating or automatic social processes (Scott, 1994a, 1995; 2001 DiMaggio & Powell, 1991; Brint & Karabel, 1991; Zucker, 1977, 1983, 1987; Jepperson, 1991). Scott's (1995, 2001) comprehensive definition of an institution focuses attention to the cognitive, normative, and regulative structures and activities which provide stability and meaning to collective social behavior. Scott (1995; 2001) argues that institutions are

1 The title is a not-so-subtle pointer to two entertainment icons. The first is the 1955 book and 1959 movie "A Mouse that Roared" (see http://en.wikipedia.org/wiki/The_Mouse_That_Roared). Given the physical location of the 2008 I-School Conference in Los Angeles, it seems *apropos* to appeal to movies and entertainment for this topic. The book and movie plot centers on the concerns and desires of a fictional, tiny, European nation – the Duchy of Grand Fenwick, – and their plan to attack the United States. Having seen the positive effects of losing a war to the United States and earning reconstruction money, they set off to lose. However, through a series of bumbles and twists of fate (wonderfully portrayed in the movie through the comedic genius of the late Peter Sellers), Grand Fenwick defeats the United States – by accidentally gaining position of the 'Q-Bomb:' the most lethal weapon ever devised. The second not-so-subtle pointer embedded into the title is to the "Tomorrowland Transit Authority" ride at Disneyworld's Magic Kingdom. This ride carries you from the contemporary world into the technological utopia of Tomorrow.

2 Comments on previous versions by Kristin Price and three anonymous reviewers have helped us to improve the current version. Thank you.

multi-faceted social arrangements which incorporate systems of symbols. These symbols include the cognitive constructions that reflect awareness, normative rules that help to structure behavior and interaction, and regulative processes that are carried out through and shape social behavior via incentives and constraints. Moreover, artifacts can carry symbols – such as power and prestige in the design of buildings and the layout of office spaces. Seen this way, an institution is "a set of roles, graded in authority, that have been embodied in consistent patterns of actions, that have been legitimated and sanctioned by society or segments of that society; whose purpose is to carry out certain activities or prescribed needs of that society or segments of that society." (Mills, 1959)

Repeated and regularized social actions becomes identifiable as belonging to an institution when self-perpetuating internal social patterns reproduce themselves without the need of special sustaining action or collective action by its members (Painter, 2002). In the I-School context, this is seen in faculty of different research paradigms and from different scholarly disciplines getting together and resolving their difference to hire, tenure and promote their peers; to recruit and educate graduate students; and, to establish common language regarding inter-disciplines and interactions. In doing this patterns of action emerge and others, seeing, this, replicate these patterns by choice. Routine procedures support and sustain the pattern, furthering its reproduction, unless collective action blocks or external shocks disrupt the pattern (Jepperson, 1991). That is, formation is fragile and often disrupted by failures of some to reproduce the act (or by outside forces that block reproduction).

Seen this way, the "I-School as institution" arises out of constantly (re-)enacted practices from which evolve stable sets of structures with formalized rules and laws. These structures of rules, laws, norms of behavior and collected practices become visible to others and are internalized by individuals. In turn, these individuals reinforce the normative and regulative aspects of an institution through repetition and reproduction.

Institutions take many forms. A profession or occupation becomes professionalized or institutionalized when they are believed to require extensive formalized study and a mastery of specialized knowledge; are autonomous; self-restricted and self-regulated; and generally exclusive. A professional institution includes organizational structures and mechanisms for preserving the knowledge and the practices of its constituents, enforcing the standards, and educating future members of the profession (Tseng, 1992; Carter, Grebner, Seaman, and Foret, 1990). Drawing from and combining these, we argue here and in other writings that a working definition of a *Scholarly Institution* as one form of professional institution, focusing on academic missions, and which shares the following characteristics with all institutions[3]:

1. Automatic: self replicating;
2. Autonomous: self-regulating;
3. Structurally stable: possessing formalized norms and cultures;
4. Visible: having a coherent outward appearance.

The constituent elements and processes that go into forming institutions are a very active area of scholarship (Frumpkin and Kaplan, 2005). Most institutional research has focused on the effect

[3] See also: Sawyer, S. and Tapia, A. (2007) "From Findings to Theories: Speculating on the Future of Social Informatics" *The Information Society, 23*(4), 263-277.

of institutions as independent variables, at the expense of an examination of the determinants and components of institutions and the process by which institutions become constructed remains a "black box" (Zucker, 1988: 104). In contrast, our interest here is to institutional formation.

One promising approach to understanding the development of institutions is to see it as a structurational activity – drawing on Gidden's theory of structuration (e.g., DiMaggio & Powell, 1983; DiMaggio & Powell, 1991; Scott, 1994a; Barley and Tolbert, 1997). Framed as a structurational process, institutionalization arises as patterns of interaction emerge out of loosely organized technical activities. According to the tenets of structuration theory, institutions emerge out of a dynamic in which individuals are shaped by institutional forces and then act upon their institutionalized environments to transform institutional arrangements (Tolbert and Barley, 1997). Change comes about in institutional environments when some event or development breaks the patterns established by previously recurrent actions and reflexive behavior of individuals. Seen this way, institutionalization is the process of these patterns of interaction becoming more stable. In doing this, they serve to infuse a normative order or a set of normative values into the organization (Broom and Selznik, 1955).

What we in I-Schools can do

We argue that becoming a scholarly institution requires concerted local and collective efforts. Both are required because each I-School must pursue institutional legitimization locally. And, collectively, these I-Schools must also establish a collective institutional presence. Both of these efforts must focus on institutional growth and maturity relative to becoming self- replicating; self-regulating; structurally stable, and visible. Self-replicating and self-regulating mean that new I-Schools are started and that there is some coherence of identity across the organizational units who claim to be I-Schools and that all I-Schools, collectively, have a coherent set of criteria for belonging (or not). By structurally stable, we mean that I-Schools possess formalized norms and regulative activities such as rules of local and collective membership and some common bodies of knowledge. By visible we mean that I-Schools have a coherent outward appearance: others can distinguish that a particular academic unit is, or is not, an I-School. Visibility also demands that I-Schools, collectively, can be discerned as a distinct academic form. In the rest of the essay we raise issues and opportunities relative to each of these five characteristics of a scholarly institution.

Pursuing self replication: To achieve this requires both a growth in the number of I-School programs and the development and formalization of shared structures and norms. Several activities suggest this is ongoing, for example there are three mechanisms that bring together the I-School leaders and faculty. The first is the I-Conference, which is currently the only community-wide endeavor that engages students, faculty and administrative leadership. The other two – the self-selected and independent I-School caucus and the Computing Research Association (CRA) - sponsored IT Dean's groups –provide senior administrators of I-Schools and units with similarities to I-Schools with forums to share structures and develop common norms at the most senior administrative level. One outgrowth of this is the rise in meetings of other senior academic and administrative staff (such as research deans, communications, and various common degree programs).

There are at least two aspects of self- replication that deserve additional attention. The first is

active encouragement towards faculty and academic leadership of other universities to consider starting or developing I-Schools. There are likely a limited number of universities considering starting from scratch new I-School programs. And, there are relatively few programs whose histories are centered in Library and Information Science who have not begun to transit towards I-School-like programs. Since these two paths are where most of the existing I-Schools drew from, new sources of growth are needed. The most likely pathway for this is to engage colleagues in scholarly fields such as communications and computing to consider becoming more "I-like." Other possibilities are to draw information systems scholars from business schools (as some senior scholars in this area are advocating, e.g., Avison and Ein-Dor, 2007).

The second aspect of self-replication deserving more attention is the development of common structures and norms – elements of a shared culture. Again, there is some progress at an informal level. For example, many of the current I-Schools – and particularly those who have histories in Library and Information Science – have a strong humanistic and informational perspective. Other currently self-identified I-Schools, however, do not have these norms as deeply-ingrained. Still others are developing unique sets of norms. The various mechanisms for having I-School faculty and administrative leadership get together provides for one means to share and develop common structures. Increasingly, however, this attention should be focusing on ensuring that these structures and norms are part of the undergraduate and graduate training and education. And, for institutional legitimization in the academy, graduate students are often seen as the carriers of common structures and norms.

Pursuing self-regulation: Autonomy in a multi-disciplinary space is one of balance. To maintain multi-disciplinarity demands both development of a common core of knowledge while retaining strong ties to the reference or contributing scholarly disciplines. Without a common core, the space is ephemeral – a collection of local and informal interactions, with no permanence. Without strong connection to reference disciplines, the space becomes an orphan and is too easily ignored.

There are at least three opportunities before I-School members to increase the level of self-regulation. The first is to make explicit a focus on building I-School faculties whose intellectual heritage combines both scholarly training from outside I-Schools with an equal commitment to hiring I-School-trained students as faculty. This dual strategy provides a means to keep the I-Schools connected to relevant scholarly disciplines even as they develop a core inter-disciplinary structure. Too much focus on internal-to-I-Schools-faculty-hires might lead to where the collection of schools becomes self-referential, disconnected from disciplines and ignored. Too great a focus on hiring primarily from referent disciplines might lead to where no sustaining cross-disciplinary interconnections form.

Second, it is important to ensure that I-School-trained graduate students secure (and succeed) in faculty positions in the reference or contributing scholarly disciplines. If this does not happen, then the 'special sauce' of interdisciplinary scholarly development that I-Schools advocate is a core competency becomes moot through non-consumption.

Third, there should be more effort to develop future administrative leaders from within I-Schools. Currently this is hard given the limited numbers of I-School faculty and the limited

opportunities for I-School faculty to gain administrative experience (there are few departments in the few programs, and few associate dean positions, meaning it is relatively difficult to develop internal-to-I-School candidate pools). One possibility is to begin holding a summer institute for faculty who are interested in pursuing I-School administration. This institute provides a means for faculty from outside I-Schools to learn more about these scholarly institutions. Doing this provides a means to increase the pool of possible leaders, expand the scale and support self-replication activities, and also to export I-School ideas.

Pursuing structural stability: Structural stability reflects both a commitment by members to pursue collectively a common set of core issues and to be rewarded for doing so. For I-Schools, this translates into developing the formal and informal norms that recognize and reward faculty for both maintaining a strong connection to research communities that extend beyond I-Schools into reference or contributing academic disciplines while also supporting faculty for engaging more directly (particularly with colleagues at their home institution) in discipline-crossing activities. These norms and incentives must be reflected in the hiring, tenure, promotion and merit-review processes of faculty

Pursuing visibility: Visibility means having a coherent outward appearance. This has been the focus of the I-School caucus and academic leadership, and should be a continued focus. There is also evidence that faculty are beginning to help make I-Schools more visible. For example, the I-Schools and I-School faculty are very involved in the research fields of human-computer interaction (HCI), participatory design, computer-supported cooperative work and social informatics research communities. This involvement leads to where others in these research communities, and particularly younger faculty and graduate students, see I-Schools as a viable, if not preferred, choice for an academic home.

The evidence suggests that I-School faculty and administrative leadership are making steps towards becoming a scholarly institution. The need for collective action to be focused and to pursue the efforts needed to ensure institutionalization benefit all of us. These actions also demand our time and attention.

References

Avison, D. & Ein-Dor, P. (2007). Diversity in IS Research and Practice, *Proceedings of the 2007 International Conference on Information Systems*, Montreal, Canada, ACM Press.

Brint, S. & Karabel, J. (1991). Institutional Origins and Transformations: The Case of American Community Colleges, In *The New Institutionalism in Organizational Analysis*, ed. Walter W. Powell and Paul J. DiMaggio, 337-360. Chicago: University of Chicago Press.

Barley, S. & Tolbert, P. (1997). Institutionalization as Structuration: Methods and Analytic Strategies for Studying Links Between Action and Structure, *Organization Studies, 18*(1), 93-117.

Broom, L. & Selznik, P. (1955) *Sociology*, Row, Peterson and Company, Evanston, IL.

Carter, M., Grebner, F., Seaman, J. & Foret, C. (1990). Occupation to Profession Continuum -- Status and Future of AAHPERD". *Journal of Physical Education, Recreation and Dance, 61*(3), 1-14.

DiMaggio, P. & Powell, W. (1991). Introduction, In *The New Institutionalism in Organizational Analysis.* ed. W. Powell and P. DiMaggio, 1-38. Chicago: University of Chicago Press.

DiMaggio, P. & Powell, W. (1991). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields, In *The New Institutionalism in Organizational Analysis*. ed. W. Powell and P. DiMaggio, 63-82. Chicago: University of Chicago Press.

Jepperson, R. 1991. Institutions, Institutional Effects and Institutionalism, In *The New Institutionalism in Organizational Analysis*. ed. W. Powell & P. DiMaggio, 143-164. Chicago: University of Chicago Press.

Mills, C. (1959). *The sociological imagination*, Oxford University Press, London.

Painter, C. (2002). Early Leader Effects on the Process of Institutionalization Through Cultural Embedding: The Cases of William J. Donovan, Allen W. Dulles, and J. Edgar Hoover, Unpublished Dissertation. Virginia Polytechnic Institute and State University.

Scott. W. (1994). Institutions and Organizations: Toward a Theoretical Synthesis, In *Institutional Environments and Organizations: Structural Complexity and Individualism*. W. R. Scott, J. Meyer, et. al., 55-80. Thousand Oaks, CA: Sage Publications.

Scott, W. (1995). Introduction: Institutional Theory and Organizations, In *The Institutional Construction of Organizations: International and Longitudinal Studies.* ed. W. Scott and S. Christensen, xi-xxiii. Thousand Oaks, CA: Sage Publications.

Scott, W. (2001). *Institutions and Organizations.* Thousand Oaks, CA: Sage.

Tseng, J. (1992). Interpreting as an Emerging Profession in Taiwan -- A Sociological Model. Unpublished manuscript, Fu Jen Catholic University, Taiwan.

Zucker, L. (1977). The Role of Institutionalization in Cultural Persistence, *American Sociological Review, 42*(5), 726-743.

Zucker. (1983). Organizations as Institutions, in Samuel B. Bacharach ed. *Research in the Sociology of Organizations, 2,* 1-47. Greenwich, CT: JAI Press.

Zucker. (1987). Institutional Theories of Organizations, *Annual Review of Sociology, 13,* 443-464.

Zucker, L. (1988). Where Do Institutional Patterns Come From?, In *Institutional Patterns and Organizations*. ed. L. Zucker, 21-43. Cambridge, Mass: Ballinger.