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Can a teaching university be an entrepreneurial university?

Civic Entrepreneurship and the Formation of A Cultural Cluster in Ashland, Oregon[1]

by

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Abstract:

There has been debate over whether a teaching university can be an entrepreneurial university (Clark, 1998). In a traditional conception of academic entrepreneurship focused on achieving commercial profit, a research base may be a pre-requisite to creating spin-offs. However, if we expand entrepreneurship into a broader conception to map its different forms such as commercial, social, cultural and civic entrepreneurship, it is clear that the answer is positive. In this study, we focus on the Oregon Shakespeare Festival (OSF), which has transformed a small town based on resource extraction, a market center and a rail-hub into a theatre arts and cultural cluster. The convergence of entrepreneurship, triple helix model, cluster and regional innovation theories, exemplified by the Ashland case, has provided a model as instructive as Silicon Valley, to seekers of a general theory and practice of regional innovation and entrepreneurship. The role of Southern Oregon University (SOU) in the inception of a cultural cluster gives rise to a model for education-focused universities to play a significant role in local economic development through civic entrepreneurship.

Keywords: teaching university, entrepreneurial university, civic entrepreneurship, cultural cluster, regional innovation

1. Introduction

"Never doubt that a small group of thoughtful, committed citizens can change the world."[2] Benjamin Franklin and his mates organized a public library and other civic ventures in mid 18th century Philadelphia. Such voluntary activities were early noted as a distinctive feature of American society by European visitors (Franklin, 1771; de Toqueville, 1851;Etzkowitz, 2011). A college instructor inspired the citizens of Ashland, Oregon, a small town in the American west to organize a theatre festival during the 1930's depression. Three Berkeley women organized a movement, in the 1950's, to save the San Francisco Bay estuary.

These bursts of collective creativity and institution-formation may be identified as civic entrepreneurship. *Civic entrepreneurship is the free contribution of time and effort to a project for the greater good of society without expectation of financial*

[2] Margaret Mead. http://www.interculturalstudies.org/faq.html#quote See Mead M. (1964) *Continuities in Cultural Evolution*. New York: M.W. Books

benefit. Self-expression, opportunity for creativity and to "give back" to the community is the motivation; reputation is the reward and social capital is the byproduct. Civic entrepreneurship is undertaken by a community to enhance its quality of life. It has been noted that, "Oregonians tend to be joiners with some of the higher rates of volunteerism in the nation. Words like "community" and "social justice" get repeated in public life like mantras" (Johnson, 2013). Thus, civic capital may be seen as a valued resource, with potential for transmutation into other forms of capital.

Civic capital may be increased and a new public identity may be produced from such voluntary mobilizations. Frustration at the meager resources available to pursue his vocation in a small college during the depression-era motivated a drama instructor to propose putting on plays as part of a civic celebration. His determination to overcome the obstacle of a paucity of academic resources in his specialty inspired the founding of the Oregon Shakespeare Festival (OSF), a cultural event spun-off from the teaching mission of academia. A new cultural economy was generated from communal activity that also attracted government support. The Ashland festival facilitated the development of a theater cluster that supports thriving upscale bed and breakfast and restaurant industries, with ancillary shopping, art gallery and tourist facilities.

The town is widely known on the west coast and inter-mountain west for a Shakespeare festival that attracts audiences not only amongst locals but also tourists from Portland, Oregon, the San Francisco Bay area and across the United States. In this paper, based upon interviews and archival research, we examine a feat of civic entrepreneurship that transformed a college and the town in which it is located. A comparative analysis of cultural entrepreneurship is also undertaken to derive policy guidelines for the re-invention of towns. A spiraling stream, emanating from academic entrepreneurship into triple helix interactions for innovation, growing into a cluster, can be identified in Ashland.

2. Forms of Entrepreneurship

Entrepreneurship is the *vita activa* of innovation, an expression of human need to organize and seek improvement (Arendt, 1958). A variety of entrepreneurships may be identified, operating in relation to each other to accomplish this objective. Just as capitalism has been deconstructed from a single entity into varieties of liberal and collective capitalisms (Hall and Soskice, 2001), entrepreneurships have been subdivided into economic, social, cultural, institutional etc. according to their objectives. However, they may also be reconstructed into a single stream, with the different forms of entrepreneurship playing out successively and simultaneously, providing a base for further initiatives to take off.

Entrepreneurship classification

- by target/mission (why)

  commercial entrepreneurship

  social entrepreneurship

  humanistic entrepreneurship

- by actors (who)

  Collective entrepreneurship
  (such as institutional, community, civic entrepreneurship)

  Individual entrepreneurship

- by content fields (what) ---- political entrepreneurship , cultural, scientific, technology, educational, academic, arts entrepreneurship.

Table 1 Classification of entrepreneurship[3]

	Performance	Purposes	Missions	Who serving for
HE	Better life of an individual	To help an individual have a better life	Human improvement in physical and mental	An individual
SE	Social impact	To create social value	Chasing social impact and creating social value	Specific social groups such as the disabled, the poor, women or children in poverty

[3] Acknowledgement to Dr. Chunyan Zhou

CE	Economic profit or commercial income	To chase commercial profit maximization	The best business The best profit The staff welfare	Users of products or service

Mapping civic entrepreneurship

No matter who acts and what content is involved, the missions and targets are critical in recognizing different forms of entrepreneurship. Therefore, we classify entrepreneurship as three forms by main missions and targets of the entrepreneurs, i.e., humanistic entrepreneurship (HE), social entrepreneurship (SE) and commercial entrepreneurship (CE). And civic entrepreneurship is in the overlapping space of both HE and SE, since civic entrepreneurship is both for oneself and other social groups, and both for social impact/ value and also for individual improvement. Figure 1.

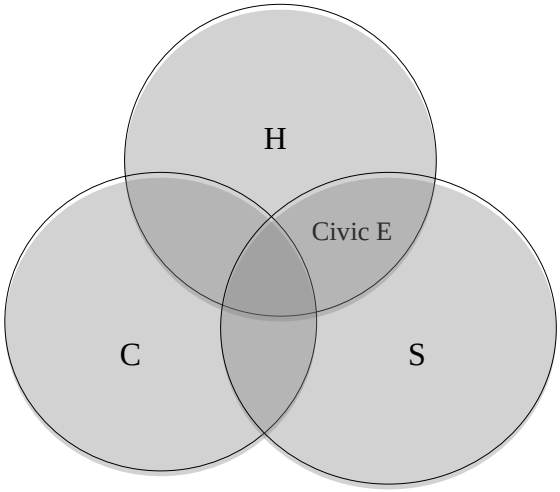

Figure 1 Mapping Civic Entrepreneurship

Taking entrepreneurship beyond initiatives within the existing societal framework to the verge of revolution, institutional entrepreneurship opposes the dominant ideology and institutionalizes alternative rules and logics (Garud and Karnøe, 2001; Leca, Battilana and Boxenbaum, 2008). Thus, institutional entrepreneurs act to change norms in contrast to moral entrepreneurs who act to reinforce existing norms, often at the point where they are at the verge of collapse e.g. Prohibition (Becker, 1961). Entrepreneurship is thus a broader form of activity than contemplated by the original definers of the concept who confined it to business risk taking (Cantillon, 1775). Schumpeter (1951) expanded the actors from individual to organizational and different types of entrepreneurship were

identified by actor e.g. Institutional (Dimaggio, 1988); University (Etzkowitz, 1983) and purpose Social (Dees, 1998), transforming entrepreneurship into a driver of innovation.

Each type of entrepreneurship is classically associated with a particular type of venture: social entrepreneurship with a business venture that is also targeted at improving the social condition of an underprivileged community (Paredo and McClean, 2005), cultural entrepreneurship with an arts initiative, academic entrepreneurship with spinning off ventures from university research. Moreover, different types of entrepreneurship may be compatible with different types of academic institutions, although the main difference may be the research university's focus on capitalizing knowledge that it generates and the teaching university on redistributing knowledge that it acquires.

The various dimensions of entrepreneurship contributed to creating the Ashland theatre arts and humanities cluster. In the Ashland case academic entrepreneurship begat civic entrepreneurship that begat cultural entrepreneurship that led to economic entrepreneurship. Multiple forms of entrepreneurship, each building upon the other, were involved in the founding and growth of OSF. The various entrepreneurships were appropriate to different phases of Ashland's reconstruction from an industrial to a cultural economy. While new knowledge may more readily translate directly into business entrepreneurship (Qian, Acs and Stough, 2012), old knowledge, like Shakespeare, may take a more circuitous route through various form of civic, cultural and social entrepreneurship.

3. The Making of a Theatre Festival

The penumbra of other theatre companies and cultural activities that grew around OSF changed the image of Ashland to an arts and humanities town and renewed its economy. Why Ashland rather than another Oregon town as the home of this cluster? Firstly, the presence of the college, and the humanistic orientation of its knowledge resources, is a necessary condition. Secondly, Ashland had a tradition of public spirit that can explain some of the town's mobilizing capacity for civic

entrepreneurship. The town's founders had donated some of their land for common facilities such as Lithia Park, the eventual home of OSF. A certain trajectory of purpose can also be identified in that the festival built upon the town's cultural substrate as regional headquarters of the Chautauqua movement, whose summer gatherings across the United States featured lectures, entertainment and occasional religious revivals in the late 19th and early 20th centuries (Gould, 1961).

The Oregon Shakespeare Festival originated during the 1930's depression as an extension of the nascent theatrical activities of a teacher training college, with volunteer and modest public support, both municipal and federal. This was not a unique phenomenon at the time as cultural ventures were begun in other depressed regions, providing a platform for their initiators while demonstrating the utility of the arts. For example, "In a typical situation found during the Depression, a couple of enthusiastic people—in this case the fledgling artist, Lawrence Hinckley (1900-1987) and his wife Mildred, put forth a tiny bit of money and a lot of effort and turned a family barn into an art gallery that eventually became the pride of the community" (Moure, 1998: 236). The Ashland theatre project was distinctive in that it involved the entire community.

Physically situated in the center of town, OSF grew to be the core of its institutional landscape and has had a transformative effect on Ashland. Ashland has achieved the goal of virtually every summer tourist destination: to extend its season virtually all year round. Typically, such efforts rely on a disparate collation of special events. Nantucket, Massachusetts has a film festival in September to extend the season and a daffodil weekend in April to encourage its early opening. Building upon its core competency in theatre, Ashland developed visual arts and crafts to fill out to its burgeoning cultural economy. The ability to draw upon a supply chain of theatre talent, youth from SOU and experienced but not star-level actors, from Hollywood, who sought a smaller pond where their talent could be better appreciated, helped grow the theatre cluster in Ashland. Indeed, the Festival's founder returned to Ashland after a brief attempt to "make it" in the world's leading concentration of acting talent.

SOU's president supported OSF, the cultural initiative spun off through faculty member Angus Bowmer's mobilization of triple helix actors. A Department Chair rejected a similar attempt to spin-off a community theatre at Stanford University, during the same era. Prof. Margery Bailey's summer Shakespeare festival on the Stanford campus was shut down after two seasons when it was decided that public performances were not in accord with the university's education mission.[4] John Maynard Keynes justified his plan to build a theatre at Cambridge University in 1934 on the grounds that a, "theatre [is] as necessary to the understanding of the dramatic arts...as a laboratory is to experimental science." Of course, a university theater is more than a laboratory to understand drama, it is also a medium of dissemination to "publish" the result. Unfortunately, the Kings College Council rejected their bursar's proposal to extend the purview of this elite institution from the arts and sciences to the performing arts (Sidelsky, 2003: 523).

As a Normal School, SOU was heavily oriented towards the humanities, with a component of performing arts, reflecting the curriculum of the schools that it provided with trained personnel. Moreover, teachers college performing arts curricula are strongly oriented to practice since a good part of the remit of a high school drama teacher is coaching their students to mount a performance. Theatre is a collaborative art. The theatrical ethos implicit in, "Let's put on a play" was congruent with taking this mission beyond the boundaries of the college. When the practical arts mission of a teachers college was scaled up to the community level, it was a leap that was within reach. Based on the theatre arts and humanities, rather than engineering and the sciences, and on teaching rather than research: community theatre was in tune with the college's mission.

Why would a rural town have such a festival, lacking even the faintest link to the Bard such as the fortuitous naming of Stratford, Ontario and Connecticut that inspired two other festivals in his honour. Ashland's tenuous link to Shakespeare

[4] Nevertheless, the Memorial Theatre, that recently celebrated its 75th anniversary, was constructed in 1937 as Stanford's campus performance venue

was embodied in Angus Bowmer, a newly arrived drama teacher with a passion for live theatre. In his autobiography, he said that, "In coming to Ashland I faced the most bitter disappointment I had experienced in my young life. Southern Oregon Normal School[5] did not have a drama department" (Bowmer, 1975: 39). "[Bowmer] realized that, if [he] were going to develop an extensive extracurricular theatre program, [his] first task was to gain the support of faculty, student body, and townspeople for the project" (Ibid. 40). He convinced the Active Club, a community service group of businessmen and professionals in which he was a member, to propose including "The First Annual Shakespeare Festival" in the revival of Ashland's Fourth of July "Independence Day" celebration. Started in 1935, the initial two Festival plays were cast from the School's faculty, students and townspeople.

The community collaborated in OSF's founding, even as the festival incubated within the College as an informal entity. The Southern Oregon Normal School presented the second Festival and the profit of $84.23 went to the School. Although President Walter Redford promised Bowmer that the funds would be "'earmarked'" for OSF, the college outfitted its football team instead, spending the money on another public entertainment project. The impetus to spin-off came from this raid on the Festival's earnings. Bowmer and his associates organized the Oregon Shakespearean Festival Association and incorporated it as a non-profit, educational institution so that OSF could control its own finances, institutionalizing an act of civic entrepreneurship and embedding a triple helix coalition in its organizational structure.

With several sources of support in the business and professional community, as well as local government, OSF could survive the vicissitudes of temporary loss of support from any single partner. Due to Bowmer's role in both the College and the

[5] A "normal school," an academic format now superseded, was a specialized baccalaureate degree institution offering a range of liberal arts and science subject matter specialties and education training to prepare graduates as elementary and secondary school teachers. The analogous UK institution is the Teacher Training College (TTC). In this paper we refer to the school as SOU or Southern Oregon University that has developed, from its normal school roots, into a liberal arts college and then to its current status as a masters level institution.

community organization, OSF had a stronger take-off velocity that if it had had to rely on a single source of support, like the ill-fated 1935-36 Stanford Shakespeare festival that was not revived once it lost its academic sponsorship. When the Ashland Festival reopened in 1947, after a wartime hiatus, "…members of the community, especially the college community, became enthusiastic participants in readying the theatre for occupancy" (Ibid 162). Thus, the social capital generated from civic entrepreneurship helped restart the Festival, even after a time lapse.

Despite Palo Alto being in closer proximity to a greater audience watershed, relatively remote Ashland became the arts and humanities cluster while Palo Alto had to settle for Silicon Valley! Prof. Margery Bailey, a member of Stanford University's English Department, with a specialization in Elizabethan literature and an interest in promoting campus performance of Shakespeare, who had entrepreneured the Stanford Festival, wrote Bowmer that he had accomplished, "… what…I…and the rest [west coast theatre academics] have been trying to do for years,"[6] Bailey connected with the Ashland festival in the early post war, adapting the Stanford geology department's field study format to offering courses on Elizabethan theatre at the festival.

Bowmer came to Stanford to work for a PhD with Bailey, solidifying an academic link between the two schools that continues to the present, with Stanford academics offering public lectures at the Festival. SOU President Elmo Stevenson soon invited Bailey to teach her courses in the SOU summer school, integrating, "…our summer schoolwork in drama, art and literature into the festival.[7] Bailey founded the SOU Institute of Renaissance Studies, bringing academic analysis of Elizabethan theatre together with performance. Combining theory with practice, as an actor and as author of a critical analysis of the season, she eventually donated her collection of folios to the Institute (Shakespeare Newsletter, 1956).

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[6] Letter from M. Bailey to A. Bowmer, 30 September, 1948 Folder 17, Box 2 Series I SC 020 Margery Bailey Papers, Stanford University Archives

[7] Letter from President Elmo Stevenson to Prof. Margery Bailey, Feburary 27, 1948 Folder 17, Box 2 Series I SC 020 Margery Bailey Papers, Stanford University Archives

Both festivals were initiated by academics, the Stanford by a female English Department Professor with a Yale PhD and the Ashland by a male drama teacher with much more modest academic accomplishments. Bowmer was integrated into a local network of business and professional persons while Bailey lacked a strong local network. Bailey's peers were fellow English Department academics with a theatrical bent at west coast and inter-mountain west universities, who provided each other with a collegial support structure through correspondence and visits. The 1930's SOU/Stanford theatre experiences suggest the importance of access to resources in the community, especially when internal resources are few.

Stanford supported Frederick Terman's engineering entrepreneurship in the same era that Margery Bailey's humanities entrepreneurship was rejected. Terman supplemented campus resources with those he accessed from firms in the region and as far away as New York, where Stanford alumni held key positions (Etzkowitz, 2013). Bailey regrouped at Stanford, organizing a new plays competition that she ran for decades, with participation of leading American theatrical figures as judges. Gender roles, doubtless, were a factor but the culture of the two schools, no doubt, also played a role, with the Oregon teacher training college, heavily oriented to the humanities even as Stanford was engineering focused. Even as technical enterprises were being hatched on the same campus, a more constricted academic culture in the humanities inhibited a parallel entrepreneurial initiative in the arts.

It would be decades before the entrepreneurial ethos of Stanford's engineering school spread all the way to the Music Department. Patentable algorithms were licensed to the Yamaha Corporation (Nelson, 2005), but this was an activity based on the application of engineering technology to the humanities rather than an expression of humanistic knowledge. Stanford has recently redressed this imbalance by creating an arts district of concert halls and museums on campus but this is largely a top-down initiative focused on buildings and donors. StartX, the Stanford student government originated accelerator project, has spread from the computer and biological sciences to design but not yet to the performing arts (Etzkowitz, 2013).

Creating a Consistent Stream of Activity

Emanating from the teaching mission of a local institution of higher education, OSF combined public entertainment with dissemination of scholarship on the Elizabethan era. At its inception, the project moved beyond the campus, which is located off of downtown, to the town center. Similar venues, associated with the visual arts and music, often emanating from or even sited at a college or university, like the Marlboro Music Festival and Marlboro College in Vermont, can be identified across the country. Few have had such a sustained growth and expansionary dynamic as Ashland's festival that became a significant feature of the town's economic base and the core of a new civic identity. Not surprisingly, there is "a cult of Angus Bowmer" who is revered by many of the Festival's older supporters. Indeed, Bowmer's persona has eclipsed the contributions of Ashland townspeople and Stanford academics that supported the founding and growth of the festival, much as the Steve Jobs aura has overshadowed Apple's other founders (Isaacson, 2011).

Ashland's prime attraction, live theatre, is a consistent and continuing stream of activity based on a common model, like the proliferation of 34 2nd hand bookstores in the Welsh town of Hay-on-Wey that engendered a literary festival. Sponsored by a national newspaper, it draws 80,000 visitors. Bibliophile Richard Smith, the originator of the town theme, was credited with having changed Hay, "… from a small market town into a mecca for second-hand book lovers and this transformed the local economy" (BBC, 2005). The "book town" model has spread to other European countries. By, "…pioneering the presence of theatre in Ashland, OSF has paved the way for other theatre companies [in town] to succeed as well."[8] OSF itself has grown to an eight month long season of eleven plays, going beyond Shakespeare to contemporary as well as classical repertoire, as only four of the eleven plays this past season are Shakespearean. Indeed, the Ashland experience inspired the southern Utah Shakespeare Festival mounted by a local university.

[8] Ashland, Oregon Chamber of Commerce, *Living and Doing Business Guide 2012*, p. 25.

The Ashland Festival attracted attention well outside the region, initially within its catchment area and then nationally. OSF was invited to perform at the 1939 World's Fair in San Francisco and the performance was broadcast nation-wide, enhancing the projects legitimacy. In the early post-war, shortened versions of OSF performances were a regular feature on the National Broadcasting System, a network that also promoted high culture by supporting the NBC Symphony Orchestra that Arturo Toscanini conducted. However, the NBC Symphony, a corporate attribute, was disbanded after Toscanini's death whereas OSF institutionalized Bowmer's charisma (Eisenstadt, 1968). OSF, grew beyond dependence upon any single individual for its survival, producing a social world, "…which exists historically prior to the actors…" and furnishes an objective structure that they reenact (Zucker, 1977).

4. The Transformation of OSU

SOU's role in the creation of OSF exemplifies the input of knowledge from universities and other research institutions in the creation of clusters from various technological and humanistic knowledge bases. In principle, there seems no reason why knowledge field, or in Triple helix terminology, "knowledge space" may not include humanistic as well as engineering expertise. Moreover, the OSU experience demonstrates that a teaching university's knowledge base may be viewed as a resource for economic and social development.

Beyond its social and economic impact, OSF has spurred the academic development of its parent. A former teachers college is now Southern Oregon University (SOU) with a competitive theatre department. The upgrading is a typical academic progression that its peers have also achieved to a greater or lesser degree. For example, Albany State Teachers College in New York State's capitol became the University at Albany, upgrading from teachers education to providing social science expertise in fields like criminal justice to state government and then a nano-science and technology research center in collaboration with IBM as part of a state government effort to build a semi-

conductor industry. SOU's ascension, linked to the theatre arts, in a relatively isolated region, giving it drawing power for students beyond the state boundaries, is uncommon.

There was no grand vision of collaboration between theatre festival and university at its inception. The site of the first Shakespeare festival housed performances during the Chautauqua era. The first Chautauqua building, built in 1893, was enlarged and then replaced by a dome-covered structure in 1917 that was torn down in 1933 after the Chautauqua movement died out in the early 1920's. The movement's decline left behind the physical base of a demolished auditorium that was re-imagined to fit the form of an Elizabethan theatre. Indeed, Bowmer thought the Chautauqua walls resembled pictures he had seen of Elizabethan theatres and recycled them as the frame for the initial outdoor theater.

Bowmer's and Bailey's dual roles in OSF and SOU helped build a variety of links. Offer of teaching positions at SOU assisted recruitment of company members, especially before OSF built its reputation. The SOU Center for Shakespeare Studies, founded in 1986, combines Shakespeare analysis and production in a Shakespeare Studies minor with OSF actors and directors as guest faculty.[9] Its relationship with OSF helped the Center pioneer the national teaching from performance movement. From 1987-2005, summer institutes, sponsored by the National Endowment for the Humanities, helped teachers teach Shakespeare. OSF and SOU also organized the Spring Shakespeare Symposia for California and Oregon high school teachers to prepare their classes for OSF performances.

As the festival gained prominence, SOU's relationship with OSF helped improve its theatre department. Theater professionals 'right down the street,' serving as adjunct professors provided, "unimaginable access" as a student noted. Student interns were treated like company members at OSF, gaining experience that helped in admittance to Master of Fine Arts programs. The Shakespearean Festival and Summer School, begun in the 1949 Festival season, offered ten

[9] Armstrong, "Existing OSF/SOU Shakespeare Studies Collaboration", p. 1.

courses that had a regional reach to west coast students, south to Stanford University and north to Washington State University.[10]

Many students matriculate at SOU, inspired by a school visit to OSF that included a campus stay. Primary and secondary school groups make field trips to OSF and stay in SOU dormitories, encouraging them to identify as college students. An SOU admissions officer, visiting high schools in California, reported that, "a girl told me 'I am an SOU student!' and whipped open her wallet, proudly showing me her SOU cafeteria meal card from her visit to Ashland." While originally planning to attend Northwestern, a nationally known theater arts school, on a trip to OSF, a high school student stopped by the SOU campus spoke with an acting professor about the university its relationship with OSF, and ended-up attending SOU. Another student who started attending OSF when she was 15 years old, decided to attend SOU because of its relationship with OSF.

University-industry (theatre festival) links were instantiated through dual roles.
A new SOU theatre facility, built in 1982, made SOU more attractive to potential instructors from OSF.[11] OSF staff was especially willing to help with the Master of Theatre Studies in Production and Design. Many actors' interest in theatre started in high school so helping with such a program is personally fulfilling for the actors and is a way to "pay back."[12] Integrating members of staff into university faculties, through "Professor of Practice" and other arrangements is the strongest form of university-industry collaboration (Etzkowitz and Dzisah, 2008).

As SOU has grown so has OSF, which increases the potential for SOU graduates and alumni to find employment and internships. Unlike the two large public universities in the state- University of Oregon, a general purpose research university, and Oregon State University, a technology oriented school- SOU is a

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[10] Oregon Shakespeare Festival, Archives Division, "Education Department Records, 1947-2011", pp. 4-5.

[11] Etzkowitz, "Interview with Professor Chris Sackett" SOU, 2012.

[12] Kaan, "Interview with Professor Eric Levin" SOU, 2012.

smaller university that grew out of a teacher training college and is located in the southern, less developed, part of Oregon. In an era of competition for universities to set themselves apart and where SOU competes for government funding against the larger state universities in Oregon, OSF helps SOU differentiate itself. Having OSF, in addition to the other theatres that exist in Ashland, gives SOU a competitive edge.

The university is taking a higher profile in the region in recent years. Just as other theatre groups, such as ANPF, want to collaborate with SOU, businesses in the area want to partner with SOU. The business community in Jackson (where Ashland is located) and Josephine counties would like SOU's School of Business, "… to become more engaged with the local economy,"[13] to do research relevant to the area, hold conferences on business issues, and for SOU to become a center for entrepreneurship and offer greater support to startups and small businesses.

5. The Renewal of Ashland

OSF has induced a change in the town's economic structure and working class culture to a focus on theatre and ancillary arts that gives Ashland a unique identity and brand name recognition. OSF is "our main business in town."[14] Ashland, Oregon is a town in the Rogue Valley, a rural region near the Oregon-California border with a temperate climate and agriculture noted for fruits and berries. The Rogue Valley economy was traditionally based on resource extraction, such as lumber mills, and its location as a railhead, losing this infrastructure to a grade improvement in 1929. Ashland theatre companies and their ancillary activities constitute a cluster, in their interrelationships, in contrast to most area firms that function as isolated local entities, located in the region due to owners lifestyle preference despite higher costs of doing business.[15]

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[13] Reid, R. Schein, S. and Wilson, H. (2006)"Industrial Clusters in Jackson and Josephine Counties", U.S. Department of Commerce Economic Development Administration p. iv. *www.ashland.or.**us**/files/SOU_IndustrialClustersReport.pdf* last accessed 15 April 2013

[14] Etzkowitz and Kaan, "Interview with Dotty Ormes, Librarian, SOU, 2012.

[15] Ibid.

A theatre cluster with various theatre companies and festivals has developed from OSF's success. For example, the ANPF devoted to new plays, enhances the city's theatre reputation, drawing additional visitors and encouraging longer stays. As Gray McKee, President of the Ashland New Plays Festival (ANPF) Board of Directors stated, a portion of ANPF's success can be attributed to the success of OSF as "…good theatre, in my experience, makes people want more of it."[16] There is cross-fertilization of talent at both festivals, for example, the ANPF Artistic Director, is also an OSF actor and key node of a network among the companies.

The creation of a market for theatrical performance was facilitated by the serendipitous location of Ashland, near Portland, Oregon and the San Francisco Bay Area.[17] People from two large metropolitan areas may travel to Ashland on a single tank of fuel so even when fuel costs rose, people would still visit Ashland. The diversification from theater arts to visual arts, renewal of the pre-festival hot springs attraction and development of ancillary activities such as coffee houses and bookshops to fill the interstices of visitors time also made the town more attractive to residents.

While an intriguing townscape may not induce a cultural cluster by itself, it can be a facilitating factor in attracting visitors who wish to temporarily enter an alternative social reality in their everyday life as well as in the theatre. The built environment of Ashland is an attractor, especially in recent years when suburbanization has engendered nostalgia for small town America. Ashland's economic development leadership protected and enhanced its classic business district and resisted the infusion of suburban ambiance that characterizes its closest neighbor.

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[16] Kaan, "Interview with Gray McKee".

[17] The significance of a catchment area for towns interested in a university collaboration to start an arts festival for economic development purposes was noted by John McLaughlin, former Community Development Director for Ashland, Interview with Kaan and Etzkowitz, 2012

An historic venue, especially a relatively ordinary one, provides a non threatening scene to relax and wind down to the slower pace associated with modest Victorian style houses and a Main Street with local shops, characteristic of an earlier era. Thus, the tight urban environment, required to call together rail crews quickly, provided a useful resource to recycle and expand upon decades later when the rising cultural economy became the focus of economic development planning. "Network growth" was the outcome of historical, policy and spillover effects in Ashland's efflorescence (Schmiedeberg, 2010: 205).

The upper working class houses of railway brakemen and engineers and a transient rooming house with a fading coca cola mural on its side, have been renovated into elegant bed and breakfasts, restaurants and coffee houses without a Starbucks marquee. The town's classic hotel, originally built as a destination for the therapeutic waters of Lithia Springs, has been cautiously renovated to retain its early 20th century ambiance. The current management is committed to, "…resurrecting those, 'Taking to the Waters, simpler times" when Ashland was known as America's Baden-Baden.[18]

From the local government perspective, OSF is "ingrained in Ashland's history [It] is very important, we try to work with them, and we want them to be successful" [19] Municipal government provided town land for the theaters at nominal cost and supported the construction of parking facilities. The city helped OSF obtain a low-interest loan to build its New Theatre through the state of Oregon as well as covering a portion of the loan payments for its garage. OSF also receives a portion of the Transient Occupancy Tax (TOT) on overnight accommodations. Of course, the Festival played a major role in attracting the visitors that paid the tax, indicating the symbiotic relationship between civic entrepreneurship and the public benefit objective of government. In 2011, attendance was 390,347, in comparison to 80,000 per summer for the NY Shakespeare Festival.

[18] http://lithiaspringsresort.com/welcome.html last accessed 4 April 2013

[19] Kaan, "Interview with Bill Molnar, Community Development Director of Ashland.

The inter-related roles of the three levels of US government in fostering innovation and entrepreneurship have been called a "triple helix within a triple helix" (Penska, 2013). This 'inner triple helix' can be seen at work in the Ashland case. The original theatre was built with Works Progress Administration (WPA) funds in the 1930's and, in the 1960's; a matching grant from the US Economic Development Administration completed the fund raising for the theater expansion project. [20] State government facilitated this latter initiative. While civic entrepreneurship provided the initiating and continuing driving force of the Festival, government assistance from the municipal, state and federal levels expanded and solidified the volunteer effort.

There is a lesson here for state supported cultural organizations in Europe, like the regional Italian opera houses. While they retain considerable popular support, reliance on national government funding, that is sharply reducing, threatens their viability. Just as European universities have organized alumni associations in recent years to increase their support base, state supported cultural organizations might look to their local supporters and organize them in associations with governance authority, thereby increasing their ability to generate local support. The Ashland Festival received support from the US government at key points in its history, the 1933 founding and the 1961 expansion. However, its support base has been constructed from a variety of elements, including but not limited to the three levels of US government, the cultural cluster it initiated and in which it is embedded, and the generations of theatre goers, many of whom have supported OSF in ways that go beyond ticket purchase.

OSF has grown into a national cultural phenomenon, acknowledged by the *New York Times* as early as 1948 (Neuberger, 1948) and into an engine of economic regeneration. SOU and OSF, as the two largest employers, combined with a strong tourism industry, are the foundation of Ashland's economy. OSF employs approximately 575 theatre professionals and attracts nearly 600 volunteers. The

[20] While a fundraising campaign raised $1,000,000, this was insufficient so the matching grant was crucial. The money went to Ashland as the project was built on city land that OSF then leased (Bowmer, Ibid pp. 262-3.).

growth of OSF is also seen beyond employment numbers. Approximately half of Ashland's visitors attend plays, with visitors significantly increasing the patronage for local stores and boutiques. In the past 20 years, Ashland's economy, in addition to manufacturing and specialty foods and beverages, has relied on SOU, OSF, as well as lodging, restaurants, and specialty retail, much of it spun-off or attracted by the Festival. Figure2.

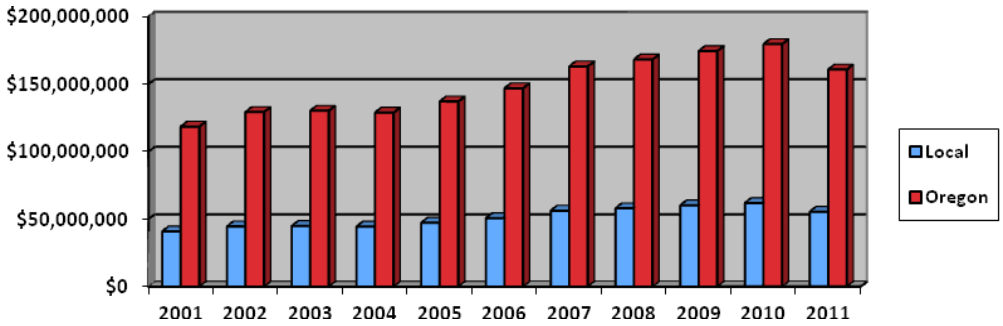

Figure 2: Economic Impact of OSF[21]

OSF attracted actors who came to perform; some moved to the town and made it their base or came for retirement. OSF also draws retirees from among theatre attendees for whom it is an attraction along with the affordable standard of living in Ashland, especially for residents from the San Francisco Bay Area.[22] This contrasts with the era when the Ashland economy was based on mills and its demographics on families and children. Ashland's working class opposed the focus on the arts and on the downtown supported by the university and the business community. While growth in the arts has benefitted the economy, a segment of the Ashland population feel local government pays too much attention to the arts. Nevertheless, rather than devolving into a "ghost town," the fate of many western towns that have lost their mining and extraction economies, Ashland has renewed itself, with concomitant displacement of its industrial working class and rise of a

[21] Oregon Shakespeare Festival, "Oregon Shakespeare Festival State and Local Economic Impact - 2011".

[22] CNN Money, "25 Best Places to Retire" Ashland was ranked 16th nationally in 2010.

new middle class of "cultural workers," as theatre became the economic base of the town.

6. Conditions of Cultural Cluster Growth

As knowledge production and dissemination is introduced into cluster policy, an enhanced cluster model is assimilated with the triple helix framework. The convergence of cluster, regional innovations systems and triple helix speaks to the creation of conditions that encourage growth. Presence of key actors in relative isolation may be sufficient to induce innovative clusters, as in Oxford and Cambridge (Lawton-Smith, Romeo, and Waters, 2013). However, the interaction of key actors over time and the institutionalization of relations among them is the key to growth and renewal in Ashland and elsewhere, ranging from Amsterdam, through its Economic Board, Stavanger, Norway[23] Porto Allegre[24] and San Francisco, California (Onishi, 2013). These venues have in common establishment of "consensus spaces" bringing together triple helix actors to brainstorm and implement projects for civic improvement, the very strategy that catalyzed the founding of OSF and supported its development over time.

Some of the factors that encourage growth have been noted in the analysis of Silicon Valley, e.g. availability of government procurement funds to drive a learning curve (Lecuyer, 2007) and insertion in a supportive eco-system with venture capital, legal assistance and firms in related business fields (Lee et. al. 2000). In an environment with legal restrictions and lack of an entrepreneurial culture, an incubator project and an entrepreneurship course can remedy some of these deficits. Yale's move into biotechnology firm formation, achieved in part by reorienting the nearby Stamford venture capital community in its direction translated its high reputational and social capital into financial capital to facilitate a pre-eminent research university's entrepreneurial transition (Bresnitz, 2007).

[23] Personal communication to the author from Jan Soppeland, Managing director, Greater Stavanger Economic Development 10, April 2013

[24] Author interview with Jose Martins and Helena Backes, Paradoxa www.paradoxa.com.br . 20 April 2013

Lack of leadership to capitalize on strengths has inhibited knowledge-based growth, previously in New Haven and contemporaneously in Oxbridge. Relative absence of these factors in Troy, New York, where computer firms located at the Rensselaer Science Park regularly moved to Boston to be among their peers, until a certain "critical mass" was achieved.[25] On the other hand, at least one of the factors that has been held to inhibit growth i.e. "greenbelt areas" inhibiting expansion has been found to be irrelevant as firms jump over the Cambridge Greenbelt and locate in neighbouring towns (Lawton-Smith, Romeo, and Waters, 2013). Indeed, a similar phenomenon may be noted in Palo Alto where once firms reach a certain size, they must depart. Given the lack of space available for large-scale firm development, Google soon moved to Mountain View and Facebook to Menlo Park.[26]

Ill-informed leadership may dissipate potential strengths. A virtually abandoned industrial district of Barcelona was the site of a struggle between artists and a top-down development project.[27] Like their Soho counterparts, artists had begun to settle in the disused factories along the diagonal roadway in the wake of the 1992 Barcelona summer Olympics that stimulated a variety of economic regeneration projects.[28] One such plan, supported by the municipality, was to turn the district into a center for high tech development, replacing most of the old factories with new construction and providing high band width and other technological infrastructure to attract technology firms and branches of universities. An early step was to call in the police to remove the artists who were viewed as an obstacle to the high tech image fostered by the Arroba 22 project. Years later, recognizing their mistake in cutting off bottom-up artistic and cultural entrepreneurship,

[25] Author Interview with *Rensselae*r Science park Director, 1990.

[26] There is the underutilized HP headquarters complex in the Stanford Research Park, but the firm prefers to retain it and host not for profits.

[27] Author interviews with Josep Pique, Director of Arroba 22, and other project members, 2007, 2010.

[28] Case 22 Innovation at Barcelona Innovation District http://sustainablecitiescollective.com/ecpa-urban-planning/27601/case-study-22-barcelona-innovation-district

Arroba 22 invited the artists to return but the damage had been done in blocking the "Sohoization" of the diagonal.

A similar fate might have befallen New York's Soho. Robert Moses, the master rebuilder of New York from the depression era into the 1960's, had amassed the capability to push through large projects by filling a variety of positions at the state, city and crosscutting administrative district levels, like the Triborough Bridge and Tunnel Authority and the New York Port Authority. He had developed a plan to build a major highway through SoHo and neighboring Greenwich Village (Caro, 1974). Jane Jacobs, an activist and urban theorist, led a small citizens group that successfully opposed the Moses plan. Exemplifying Margaret Mead's thesis of the power of a committed citizenry, SoHo was saved for the artists, allowing space for a bottom-up model of urban regeneration, based on artists and the arts, to emerge (Jacobs, 1961).

Cultural Cluster Success Factors

What are the necessary and sufficient conditions for the creation of a cultural cluster? We shall address this issue through a comparison of the Ashland and contrasting attempts as cultural cluster building. In the 1970's, based on analyses of networks of small family firms, each contributing special elements to leather and clothing products, the regional level was rediscovered and conceptualized in cluster analysis (Boschma, 2005). Ranging from loose definitions of a group of similar firms e.g. the gypsum cluster in Recife, Brazil to "strong networks" among firms as in the "Third Italy" in industrial society, knowledge-based clusters are typically more complex.

The organic development of the Ashland festival over several decades has both similarities and differences to some recent cultural initiatives that were inserted into seemingly improbable environments. For example, the Guggenheim_Museum in Bilbao was an entirely new departure for this industrial town. The Museum was a top down regional government initiative in sharp contrast to the bottom-up nature of the Ashland festival. An economic success, the Museum has drawn visitors that utilize the towns existing hospitality structure on weekends and

summer months when business visitors are less present. Thus, the Museum is complementary to existing infrastructure but the industrial features of the town, though in decline are still the mainstay of its economy (Plaza, 2008).

Contemporary cultural entrepreneurship is exemplified by such high-profile international collaborations carried out at great expense by joint public/private donors, like the Guggenheim Museum in Bilbao that has transformed the image of this declining industrial city and made it a cultural icon and tourist destination (Hall, 2002). However, the Museum seems a relatively isolated initiative, linked to its parent Museum in New York but with little or no connection to local cultural or academic infrastructure. Its long-term success may be judged by whether the project also generates a local artists quarter where works are produced that are worthy of being exhibited at the Museum.

The experience of another Shakespeare Festival suggests the importance of local support. The Stratford Connecticut Festival, founded by New York theatre luminary, Lawrence Langner, together with such well known theatre personages as Lincoln Kirstein, founder of the New York City Center Theatre, Theresa Helburn, co-producer of the Theatre Guild, a non-commercial alternative to Broadway, Roger Stevens, noted producer and Maurice Evans, distinguished actor. Although Langner was a founder of the Theatre Guild, Stratford followed the Broadway model in emphasizing stars, expensive productions, and a theatre building, rather than the simple structures that characterized the beginnings of regional festivals, like Ashland. The Ford and Rockefeller foundations supported Stratford and no less a personage than Winston Churchill sent a congratulatory message for the Festival opening.

Nevertheless, the path was not smooth. The residents of Westport Connecticut, an upscale community opposed the Festival, causing it to be relocated to Stratford, an industrial town. The project moved top-down, with support of the state's governor, a Broadway theatrical elite and supporters from," …the worlds of finance, law, retail and government and publishing"(Cooper, 1986: 19). Without significant local roots, external support waned and the American Shakespeare

Festival closed in the mid 1980's. The town of Stratford supported by local volunteers, has since attempted to make the shuttered theater a tourist attraction, but with limited success.

The New York Shakespeare festival, begun in the same era, by Joseph Papp, a visionary theatrical entrepreneur, touring New York City with Shakespeare productions performed on a flatbed truck, showed steady growth and greater staying power. It scaled up gradually, as support grew, to a summer theater in Central Park and a theatre complex downtown in the renovated headquarters of the Hebrew Immigrant Aid Society. The New York Shakespeare Festival, now the Public Theatre, developed a symbiotic relationship with Broadway, moving its successful productions to the commercial stage and recycling funds to support its non-profit theatre.

After a period of initial ambivalence, city government also became a strong supporter, including construction of a theatre in Central Park, in recognition of the Festival's contribution to civic life and tourism. Indeed, it was the very same Robert Moses who almost destroyed the emerging SoHo arts district (Jacobs, 1961) who was the initial opponent but, when turned around, is reported to have said, "Let's build the bastard a theatre." New York provided Papp a broader venue for his efforts than Ashland offered Bowmer. However, they are similar in the civic support they engendered and the clusters they generated, de novo in Ashland and as an enclave within the broader theatrical scene in New York.

Entrepreneurial activity creates and translates capital from one form to another. As Bordieu and his colleagues have shown, capitals are transmutable and are exchanged in an informal bourse that trades one form of value for another: civic into reputational, reputational into social, financial into cultural, cultural into financial etc. (Bordieu, 1986). "Dual-life persons," like Ashland's Bowmer, with a foot in different camps, often perform the exchange function. In another instance, a late 19th century Bostonian financial entrepreneur with an artistic bent, Henry Lee Higginson, applied models of formal organization, drawn from business, to

distinguish the high arts from the low arts and shaped independent musicians into the Boston Symphony, a disciplined organization.

Transmuting financial into cultural capital, Higgenson and his colleagues built museums and concert halls, taking control of the arts from artists and their informal organizations (Dimaggio, 1983). The evolution of the Edinburgh fringe festival illustrates a continuing dialectic between cultural and business entrepreneurship and the attractive power of an anchor cluster (Lee, 2012). Begun spontaneously by theater troupes that showed up to take advantage of the audience potential generated by an official festival, the phenomenon was labeled by a journalist who defined its identity, much like the naming of Silicon Valley, after the cluster of semi-conductor firms had appeared. The Fringe festival engendered an informal support organization that was eventually formalized under pressure of fringe festival growth but elected representatives still represent performers. The fringe has become a networking and booking venue for individuals and groups, across a wide range of popular and performing arts, as well as a tourist attraction in its own right alongside the official International Arts Festival every August.

Culture has become an explicit element of economic development policy both for regeneration of declining regions and advancement of well to do areas (Lysgaard, (2011).[29] The Edinburgh fringe, Ashland and New York's Soho were bottom up developments. SoHo was assisted by policy measures, such as a "licensing" procedure to restrict residency to working artists (Etzkowitz and Raiken, 1980). As the Festival demonstrated potential for economic development, Ashland provided assistance with the construction of new theatre and parking facilities. The Edinburgh Fringe apparently remained self-organized even as it spun off year-round theaters in the city (Lee, 2012).

[29] The author served as arts policy advisor to the 1977 New York Mayoralty campaign of US Representative Bella Abzug. Economic data was already available from Martin Segal, Chairman of Lincoln Center's Board of Directors, detailing the extensive contribution of the arts to the city's economy.

21st century cultural entrepreneurs extract monetary value from culture as they advance artistic innovation in abandoned industrial districts like New York's Soho, Tribeca, Dumbo and their counterparts elsewhere. The entrepreneurs are often artists themselves regaining control of art, creating diverse scenes ranging from hip-hop to performance art. Their manual skills as artists proved useful in renovating discarded venues, setting in motion a gentrification dynamic (Etzkowitz and Raiken, 1980). Cultural entrepreneurship morphed into business entrepreneurship as production of art also engendered galleries for the sale of art and ancillary cafes, coffee houses and restaurants to service the visitors. Streams of visitors made the area attractive for retail ventures and the cultural ambiance attracted non-artists who appreciated their life style and made it their own.

Policy initiative has more recently become the first step, with funding mechanisms targeted at the origins as well as the growth stages of cultural entrepreneurship. Stock sold in a municipal water power plant raised 170 million dollars for the Cultiva Foundation to promote culture, ranging from cutting edge artistic activity to more conventional leisure pursuits as well as projects in education and research in Kristiansand, Norway (Lysgaard, and Tveiten, 2005). The initiative was apparently inspired by Richard Florida's "creative class" thesis, imported to a reasonably well to do town with little previous experience with the avant garde (Kotkin, 2013). Thus, there is hope for "bourgeois" Kristiansand despite the concern expressed by its analysts that the town does not meet Richard Florida's "creative class" criteria (Florida, 2002). The Ashland case suggests that relatively conventional persons may be inspired to participate in civic and cultural entrepreneurship ventures as well as those on the outskirts of society. Although diversity is certainly conducive to production of novelty, the association between marginality and cultural entrepreneurship, posited by Florida, may be weak.

In contrast to New York City, where corporate headquarters, finance and real estate overshadow a world-class cultural economy, a renowned attraction in a small town has less competition for public support but there are fewer capitals to risk. Bottom-up cultural entrepreneurship, exemplified by Bowmer and Papp, embedded in a supportive local environment, is in sharp contrast to the top down

Bilbao and Stratford cases, exemplifying success and failure respectively, with Kristiansand somewhere in-between but too new to judge success. Bilbao found its support from public investment, a recognized museum brand, signature architecture and international tourism while Stratford's support, even though strong within the New York theatre community lacked deep local roots and suffered from an inconsistent artistic vision.

The 2008 downturn reinforces the importance of a cluster with deep roots and potential for continuous reinvention. Rustbelt cities that attempted to instantly reinvent themselves by importing attractions from afar might also explore the potential of local educational and knowledge resources and previous industrial traditions. Under pressure of rising unemployment in 2010, the state of Rhode Island committed 75 million dollars to an enterprise promising immediate job creation in complex computer games, a field where there was no previous local experience. A large number of jobs were temporarily created in an isolated venture but the firm soon closed and Providence has reverted to a longer-term strategy relying on its strong local knowledge base in medicine and design (Mia, 2013).

Ashland also bet on a knowledge field, Elizabethan theatre, in which it had a relatively small competence, namely Angus Bower, but the initial financial bet was small and built upon gradually as a considerable commitment of social capital was transmuted into civic and cultural capitals. Attracting Bailey's scholarly expertise from Stanford and numerous actors who had performance experience also enhanced the local competence base. The "theater business" provided a frame for the development of Renaissance and Shakespeare studies at SOU that would otherwise more likely be found at a much larger university. SOU and the Ashland cultural cluster grew hand in hand, with the cluster enhancing the academic excellence of the university. Today, Ashland's image is projected internationally as a distinctive tourist destination, like Santa Fe, New Mexico, with its summer opera festival, Boulder, Colorado with its Buddhist cultural scene and Laguna Beach and Carmel-by-the-Sea, California, with their arts colony origins.

7. Conclusion: Policy Implications

Ashland and other success cases combine bottom-up initiative with top-down support and lateral links across the institutional spheres, rather than relying on a narrow base, a strategy we have elsewhere defined as, "meta-innovation" in an examination of the deeper understanding and reinterpretation of the Incubator concept in Brazil (Etzkowitz, Mello and Almeida, 2005). In meta-innovation, government support solidifies, reinforces, and may transfer to other venues, a local project that has developed a successful model to translate academic knowledge into economic activity. In Ashland, civic entrepreneurship was institutionalized through triple helix interactions among a university (teaching college) Industry (theatre festival) and government (Ashland municipality).

Key findings include:

1. Old knowledge, that is reinterpreted for a new generation, the special competency of the humanities, may be significant for economic development, as well as new knowledge generated by experimentation, the forte of the sciences.

2. The Ashland experience speaks to the issue of whether an entrepreneurial university has to be built on the base of a research university; a teaching university may serve as a starting point as well.

3. Academic entrepreneurship is a non-linear phenomenon that may be created from virtually any form of knowledge: literary as well as scientific, social science and engineering.

4. Ashland demonstrates the significance for long-term success of generating a cluster that can anchor the original project.

5. Symbiosis with an educational institution is another factor in cultural entrepreneurship success. The Stratford festival attempted to generate a training program but its support base was too small to carry both a performing and an educational project whereas OSF could always rely on SOU with its independent support base.

A knowledge-based society emerges from different principles and practices than an industrial society. The various processes of knowledge diffusion, if not development, entrepreneurial experimentation, market formation, legitimation, resource mobilization and positive externalities in the TIS checklist may be identified in the Ashland case (Bergek. et.al. 2008). NSI has also devolved to the regional level where it has been de facto reformulated from a dual (state/industry) to a triadic model of innovation, taking account of the role that the university and other knowledge producing institutions may play in "regional systems of entrepreneurship" (Qian, Acs and Stough, 2012). The synthesis of innovation models shows "systemness" relaxing as boundaries become porous, with key actors "taking the role of the other" across institutional boundaries.

Entrepreneurship, in the classic form of business start-ups, should be viewed as a later phase of a broader configuration that may be necessary to be first put in place to assist the eventual take-off and growth of business activity. Thus, the founding of Stanford as a university oriented towards economic development as well as transmission of high culture may be seen as a key event in the construction of the conurbation that was eventually labeled Silicon Valley. Paradoxically, fostering commercial entrepreneurship may not be the most useful first step in building a knowledge cluster. Civic entrepreneurship, involving triple helix interactions, may help build a platform of not for profit activity that may then generate profit making ventures. A university, whether teaching, like SOU, or research oriented, like Stanford, may provide the 'raw materials' of Shakespeare and electrical engineering to build that platform, just as trees, agriculture and a railway provided the elements for Ashland's old economic base, some of which persists, thus giving the town two legs to stand on.

Entrepreneurship feeds into larger innovation schemas. The National Systems of Innovation (NSI) model, that originated from an analysis of the role of the state in organizing the supersession of industrial activity in post-war Japan (Freeman, 1987) has been extrapolated into various formats including Technological Innovation Systems (TIS) that may refer to a knowledge field like signal processing as well as a specific product e.g. biofuels (Bergek.et.al. 2008). Thus, Renaissance studies (knowledge field) or Shakespeare plays (product) may be

viewed as a globally distributed TIS instantiated in various venues, with nodes and links, e.g. Stanford /OSU discussed above, and flows from one to the other, e.g. the OSF trained Shakespearean actors who filled lesser roles in the star oriented Connecticut festival. To accommodate the humanities and social sciences, TIS might best be referred to as Knowledge Innovation Systems (KIS).

A supportive environment for cultural cluster growth was created in Ashland as an outcome of an act of civic entrepreneurship involving triple helix actors, much as the concept for the venture capital firm was invented during the same era in Massachusetts by a *pro bono* coalition of academics, politicians and business leaders, concerned for the future of their region (Etzkowitz, 2002). Ashland's European sister city might well be Norrkoping, a Swedish town, formerly based on paper mills, that is building upon its previous heritage to rebuild its economy (Svensson, Klofsten, and Etzkowitz, 2012). In developing an "electronic paper" research center in a branch campus of Linkoping University, it is translating financial and social capital from an earlier era into intellectual capital as its strategy for renewal.

The common lesson from a Norrkoping/Ashland comparison is focus, focus focus, rather than dissipate energy in too many directions like Newcastle's original Science City plan with four disparate foci, representing emerging academic research strengths, that neglected the region's persisting, albeit diminished, strength in heavy engineering (Pearson, 2009). A relatively small venue may only be able to afford one bet on its future: best make it a big one, not only in financial but in social capital, to make a difference. Over the course of almost eight decades, Ashland has constructed an innovation practice that may be as significant as Silicon Valley for seekers of a general theory of innovation, clustering and renewal, applicable to world cities, edge cities and small towns.

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