

Intro

Definition "entities of different types reproduce and modify themselves, and change their relative frequency in populations of individual carrying them" (Warglien, 2002 #4533)

selection: when the frequency of an entity is changed

(Darwin, 1859 #5759)

Campbell Advocacy of evolutionary approach in social sciences

Four generic processes - variation, selection retention and diffusion, and struggle for scarce resources

"Selective adaptation of cultural form" (Campbell, 1969 [1998] #4569)

(Campbell, 1969 [1998] #4569): VSR processes into social processes

(Wilson, 1975 #5045): interaction of biological selection processes and social processes

Application of evolutionary notions at social psychological level (Weick, 1979 #553)

(Aldrich, 1979 #5357): VSR in an Open system perspective (but not level specific (in particular intraorg))

(McKelvey, 1982 #5358) (attempts to classify in a taxonomy-like fashion)

Chronology

(Nelson, 1982 #377) Routines (any regular and predictable business pattern) play a role similar to genes. Routine are temporarily defined (some short lived, other long term). Variation and Selection operate (hierarchy of routines, some voluntary, some random)

scholarly papers in evolutionary tradition (Baum, 1994 #2332) - contribution mainly from ecological and learning scholars

Articulation of a unified evolutionary perspective (Aldrich, 1999 #4224)

Core Assumptions

(Warglien, 2002 #4533) Evolutionary principles - Not law-like statements but a concatenated system of loose but apparently true and heuristic propositions (Langton, 1984 #32)

"Malthusian": population is subject to selective pressure

"Darwinian": self-replicating entities subject to variation; differential diffusion according to fit

"Hierarchical Evolution": a hierarchy of evolutionary processes

"Cultural Evolution": replication, diffusion and variation are cultural

Why and how study evolution?

good model of change (but happen cross level)

Selective pressure appears through analysis of birth and death, relative to intra variable (density) or exo variables (predators, change)

Relative weight of studies

variation

Little interest, maybe because difficult to disentangle from contingencies

important differentiator w/ pop eco

see issues in Lamarckian vs. Darwinian

selection

main study focus

retention

little studied, assumed unproblematic since organizations are structurally inert

(Hannan, 1977 #2804)

differs from other explanations of organizational change. does not take the environment as given. does not assume a completely known/inertial internal structure. nor controllable internal structure (contingency theorists). (Thompson, 1967 #519). it focuses on the nature and distribution of resources in organizational environments as central selection criterion (Aldrich, 1976 #405). opposed to internal leadership as in bureaucratic models of organizations. opposed to decision making as in the Behavioral Theory of the Firm. it examines organizations as representatives of types (not one firm but at an aggregate of similar firms found in populations). it takes into account the historical context within which organizations emerge (political and economic conditions in which firms were born and developed).

VSR in multiple nested levels:

(Dawkins, 1989 #5360) for discussion of this issue in biological evolution

heterarchy (Hofstadter 1979)

study of multi-level evolutionary processes initiated (Baum, 1994 #2332)

Continuum of selection entities from intra entities (divisions (Burgelman, 1983 #2410) and (Galunic, 1996 #4007)) to organizations (Hannan, 1977 #2804) to communities (Barnett, 1987 #2303)

Hierarchy of self reproducing entities (Baum, 1994 #2332)

What is being selected?

Bounded entities e.g. Organizations or even whole populations

Population ecology (Hannan, 1977 #2804)

Depends on relative size of organization in a population (Barnett, 1994 #4244)

Adding entire population as a selection unit (Baum, 1994 #2332)

Open entities e.g. Activities/routines/competencies/memes

Competencies (McKelvey, 1982 #5358) - organizational species defined as polythetic groups as populations sharing competencies separated from each other as their competencies are not easily copied

Routines - distinction between expression vs. representation of routines (Cohen, 1994 #116)

Routines and competencies are bundled hence their individual selection not possible (Levinthal, 7)

Changing distribution of routines vs. individual routines (Miner, 1995 #4225)

More generalized selection unit Memes (Weeks, 2003 #550)

Hierarchical Evolution

But not clear if replicators are to be found at each level (for instance, competence found at community level, may only be a diffused intra org form!)

but replication can be identified specifically at a level: for instance, imitation as a transfer of routines across organizations

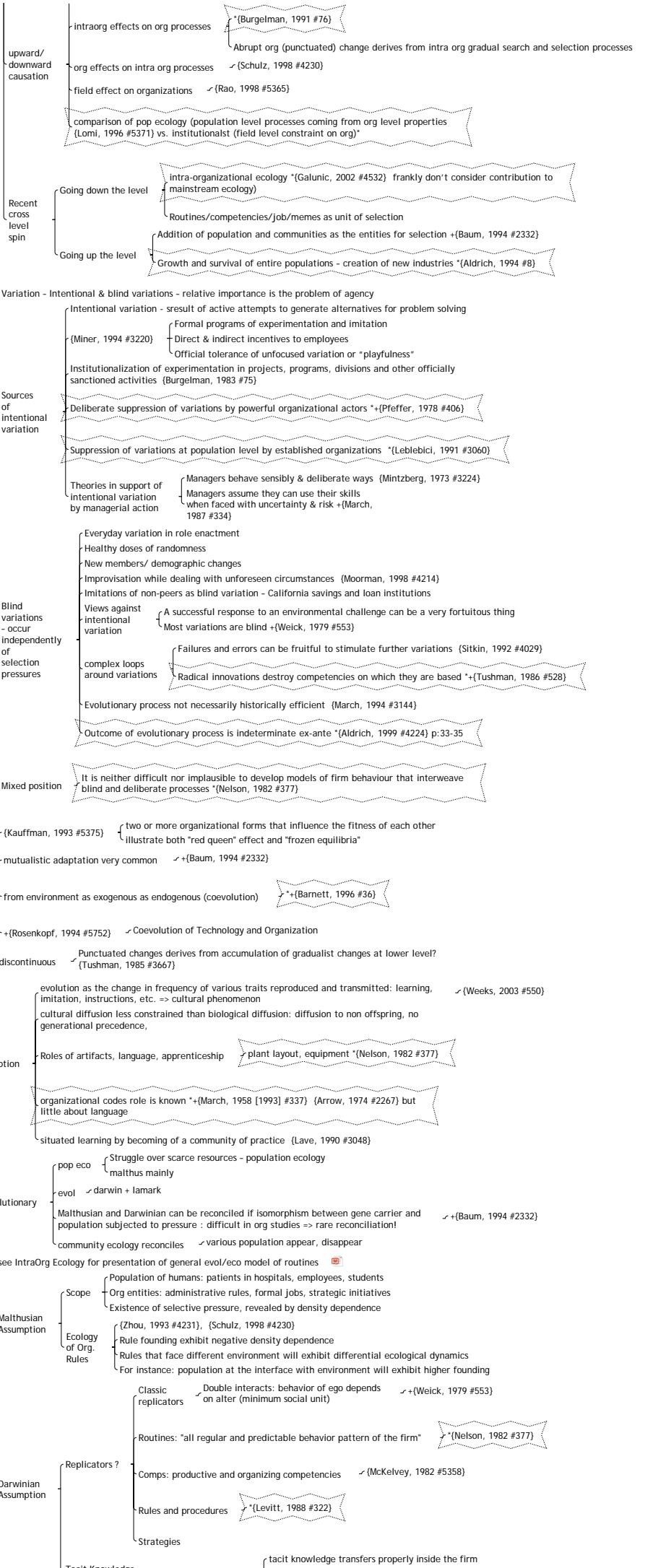
Coherence between selection across levels?

overall, yes, at least, hoped for (Burgelman, 1991 #76)

but not adaptive sometimes: goal displacement (Michels, 1966 #3894), Agency (Jensen, 1983 #3858), institutional constraints (Zucker, 1983 #4416)

each level constituted a node of selection (maybe contradicted across levels)

Lit Rev



Tariff Knowledge tacit knowledge transfers properly inside the firm

Knowledge and replication? (Zander, 1993 #2993) firm boundaries constrained by knowledge transfer requirement, more than by market failure (as TCE would predict)

Induced process vs. autonomous processes
Ex: evolution in a population of strategic initiatives
(Burgelman, 1983 #2410) *(Burgelman, 1991 #76)
Organization as an ecology of strategic initiatives internal ventures escalates hierarchical ladder
internal selection rules different from external (environment) mortality at interface
intra Selection shapes higher level of strategic response
so, goal is to align internal selection to external selective pressures
slack *(Cyert, 1963 [1992] #126)
autonomous processes benefit loose coupling *(Weick, 1976 #3740)
failure of control *(Nelson, 1982 #377)

IntraOrg (Warglien, 2002 #4533)

Cultural Assumption
see general discussion above
interorg diffusion is well documented, but little intra except (Leonard-Barton, 1990 #3067) and (Cool, 1997 #2516)
Assumption that they are similar? (Cool, 1997 #2516)
but different motivation
and possibility of top down hierarchical diffusion, different from aggregation of local choices
IntraOrg diffusion
(Cool, 1997 #2516) different intraorg entities
each have a different diffusion mode, around a critical mass threshold
before critical mass, "internal criteria" apply
after critical mass, "demand-side" "external" environment apply

Current Debates
Adaptation vs Selection
org adaptation may result from intraorg Darwinian selection
organization as parallel search (Cohen, 1984 #5361)
a form of exploration/exploitation tension? *(March, 1991 #336) in the long run, exploitation drives out exploration

Future Directions
Topology of interaction
evolution does not happen in homogeneous environment
(Axelrod and Cohen 2000): distinguish
proximity physical position (likelihood of interaction)
vs. activation in sequence or simultaneously?
Evolution as design
(March, 1994 #3144) time to move to "engineering history"?
evolutionary design: tuning parameters
basic parameters, for instance of recombination or retention // search team design, slack availability, turnover
heuristic
fitness landscape (incentive structure) fitness landscape engineering (// problem space

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Evol

Halliday, 1992 #5367
transformation of state bar institutional and resource dependence framework
association from market form to state form
selection need not be the only mechanism
adaptation happens: transformation to seek state reliance
legitimation of one form does not delegitimize the other one

strong to weak evolution
changes in Finnish newspaper industry structural inertia, plus internal factors
*(Amburgey, 1993 #15) organizational change has two effect
process effect (disruptive): changing routines and external interactions
content effect: may be positive
repeated change experience creates organizational momentum: recent change increase chance of change! (with decaying)

age and history influence change likelihood
transformation complements entry and exit
5 key shifts
strong influence of institutional environment
consumer watchdog organization: fight between a testing model, and a mobilization, wide spectrum of issue model
momentum to specialized testing model, that overwhelm wide spectrum organization
{Rao, 1998 #5365} 3 variations
random variation: new form random, or isolation of a small group
constrained variation: emergence of a new resource space not occupied
cultural-frame variation: institutional actors with resources imagine a new form that serve their interest
a form of speciation
accepting institutional pressures
{Stark, 1996 #3607} reorganization of industrial capitalistic fabric in post socialist Hungary
Reorganization of asset, and centralization of assets as dimensions to mix
various forms around those two variants a form of speciation
{Davis, 1994 #2540} abandonment of "firm as portfolio" model
a form of extinction
{Bruderer, 1996 #5363} a simulation of VSR, with learning having effect in various landscape (spiked or hill like)
learning transform the landscape, to change the exogenous conditions!
this stream also a contribution to move from strict Darwinism to accepting some sort Lamarckian influences
From Macro to hierarchical
{McPherson, 1996 #5373} analysis of voluntary membership
interaction between group position and individual population movement
{Lomi, 1996 #5371} verify density dependence by specifying local micro interaction rules
see coevolution

Org. Evol (Amburgey, 2002 #4543)

Contemporary issues
ex post to ex ante?
what determines success when entrepreneurs construct new frames? in (Rao, 1998 #5365) it seems be collective action and endorsement by powerful actors
which part of the process act as raw material for new construction? most successful? most visible?
can incompatible frames coexist? *(Davis, 1994 #2540) model is winner take all (disappearance of portfolio model)
*(Stark, 1996 #3607) describe co-exist and co-usage
Usage of simulation, but how realistic and rich? {Lomi, 1996 #5371} {Bruderer, 1996 #5363}

Central question
relative effect is it selection more than transformation? for instance, (Halliday, 1993 #5367) state bar are more likely to transform than disappear
imitation or transfer
Structural evolutions network has not been dynamic
theoretical convergence great variance in method induce dispersion in theoretical approach

Levels

New Directions? and methodological variety - great variance in methodological approaches in theoretical application
 evolution and coevolution - more beyond (Barnett, 1996 #36)

"the process of cumulative change in social structures composed of or affecting multiple organizations" (Greve, 2002 #4553)

mutual and path dependence - initial conditions influence

Def

- level
 - interorganizational - (DiMaggio, 1983 [1991] #4585)
 - population - (Hannan, 1977 #2804)
 - community - (Astley, 1985 #27)

Selection: inter and intra imitation, or org founding or failure, or coercion

imitation driven by performance

market for goods or services (consumer oriented)
 rarely studied: ex (Leblebici, 1991 #3060) in radio broadcasting

driven by founding and failure

and tied to social/legal constraints
 market transformation: ex (Haveman, 1997 #236) on the thrift industry

influence of social ties on creation and maintenance of economic actors

(Uzzi, 1996 #536); (Uzzi, 1997 #3678)

emergence of market for corporate control (firm as objects)

(Fligstein, 1990 #173) (Davis, 1994 #2541)
 tool of corporate buyer (unsolicited takeover) went from being viewed as a threatening tool by established players to legitimation
 challenger used collective action, arguing of the economic interest of their fight
 so mix of ideology, collective action, opportunism in evolutionary process - relative importance?

Market Structures

Embeddedness

durable exchange relations, beyond economic rationality? (Granovetter, 1985 #208)
 number of transaction partner? (Granovetter, 1985 #208)
 status as differentiation (Podolny, 1993 #3376) - choose high status partner in uncertain market mechanism
 choose familiar partner in more certain market mechanism

Niche strategies

more likely in concentrated markets (Carroll, 1985 #87)
 niche are transferred across market (Greve, 1996 #5149)
 imitation of large and successful firms (Gresov, 1993 #213)
 niche abandonment is also imitated (Greve, 1995 #5151)

Variation and selection happen over longer spans, retention is visible in short term

Conclusions - economic theory assume market boundaries are predetermined
 evolutionary assumed path dependence cumulative change

InterOrg Evol

InterOrg origins and change

Governance Structures

Control attempts (through resource dependence (Pfeffer, 1978 #406) shape markets
 Large organization seek to influence state and laws - which influence the field (Sutton, 1994 #4599)
 Advocacy seek to influence core organizations (Rao, 1998 #5365)
 Professionals seek to influence organizations

Origin

work derives from human ecology research (Hawley, 1950 [1986] #2835)
 applied to local agglomeration of organizations (industrial district and nation) (Porter, 1990 #3389)
 in economics, debate between evolutionist (Krugman), static efficiency and historical accounts
 in org studies, evolutionist account dominate

Spatial Structures

Spatial proximity produce local homogeneity, which can vary between regions (Saxenian, 1994 #3504) - study of route 128 and Silicon Valley
 difference in initial conditions: route 128 firms very paternalistic, Silicon Valley very open market regions
 Local market as an integrated market (Lazerson, 1995 #4084) - knitwear industry in Italy
 Local district threatened by arrival of large firm with aggregated means (Harrison, 1997 #4079)
 similar to (Saxenian, 1994 #3504) argument about negative impact of large firms on route 128
 Advantages beyond operational (Baum, 1997 #4787) - Mahattan hotel market seek other hotel presence, as long as different segment as theirs
 compete against those not met in other markets (Barnett, 1994 #4244) (Gimeno, 1996 #2722)
 mainly selection mechanism, little time for variation experimentation

Comparative studies

complex empirical setup but possible (Saxenian, 1994 #3504) (Guillen, 1994 #3907) - compare USA and three european nation on various HR, scientific management practices
 (Herrigel, 1994 #4080) - machine tool industry USA vs. Germany
 difficulty of large, self contained and distrustful organizations to adapt (USA) - vs. small specialized and collaborative orgs (ger)

Contemporary Issues

Evolutionary is usually subsidiary, but not main theoretical framework (Baron, 1986 #2313) is an "institutional" paper
 Even used in mild or contradictory manner - static efficiency assume evolution to reach equilibrium (Williamson, 1981 #3774) - but ignore history contingency possibility
 Does evolution reach efficient outcome? (March, 1994 #3144) - density dependence may prevent efficient form to take over or inefficient form to be imitated (Carroll, 1994 #2447)

see Coevolution

a bit of variation in (Baum, 1999 #5376)

