Glossary

A LEXICON FOR FIRM AUTECOLOGY

The ecological terms noted here are defined as for intended use in firm autecology (FA). Where usage differs from that already present in the organizational studies literature, an explanation is provided.

**Adaptive Improvement**  The outcome of firms altering the feature–factor relationship between the firm and its operational environment to achieve a better match between a firm’s interacting elements and the requirements and strictures of the local environment.

**Adaptive Mechanisms**  See ‘sustenance activities’.

**Autecology**  As used here encourages researchers to contextualize ecological processes in terms of individual firms, their adaptive behaviours, the structure and dynamics of the environment, and their environmental interactions.

**Autopoiesis**  In the context of this work relates to a firm’s ability to build itself and maintain its persistence through time, with it both being and becoming to retain a match against changing environmental circumstances.

**Coactions**  Are the nine qualitatively different systems relationships that can exist between two interacting entities. Adhering to Haskell’s (1949) approach enables research to account for all of the negative, neutral and positive outcomes that are possible.

**Common Environment**  A common environment is assumed to be present in organizational ecology, whereby firms designated to membership within a particular population experience homogeneous selection processes. In autecology, the environment is conceived at the level of the firm, not the
population, and therefore far greater environmental variance is expected, and each is expected to interact with a unique subset of the environment as a whole.

**Commensalism** Refers to an interaction between two entities in which one benefits from the other, but the other is unaffected. First defined by van Beneden (1869) and its meaning in mainstream ecology has remained unaltered to present. Note, various definitions exist in the organizational studies literature (see Hawley, 1950; Aldrich, 1999); these tend to view commensalism as being directly related to competitive interactions.

**Community** In organizational ecology, is an observable number of interrelating populations. In autecology, the focus on individual firms relegates the concept to that of epiphenomenon.

**Community Similarity Index** In this context, is simply \( \frac{X}{N} \), where \( X \) is the number of firm-types common to two towns and \( N \) is the total number of firm-types occurring in both; thus community similarity equals 1 when two towns are identical, and 0 when they share no firm-types.

**Competition** In this context, competition refers to the endeavour of two (or more) firms to gain the same particular thing, or to gain the measure each wants from the supply of a thing when that supply is not sufficient for both (or all), as consistent with Milne’s (1961) definition for animals.

**Corridor of Persistence** Refers to the degrees of freedom afforded the firm’s activities, products/services and identity by the operational environment. In essence, there is no identifiable equilibrium position possible in reality, but rather the relative degree of environmental stability determines the breadth of a buffer zone within which degrees of fitness are achieved.

**Cryptic Firm Complex** A group of firms that, despite being assumed similar, differ sufficiently across their form, structures, functions and/or activities, and environmental interactions that they cannot be seen as ecologically equal, vis-à-vis the adaptive mechanisms used to maintain their persistence.

**Ecological Guild** Consistent with Root’s (1967) definition, we define a guild as a group of firms that seek to exploit the same types of resource in similar ways.
**Ecological Inheritance** The process through which entities inherit an environmental circumstance, either positive or negative, as a result of their influence on the environment, or that of other such entities.

**Ecological Scale** The observation and investigation of ecological processes at the scale at which firms respond to phenomena in their environment. It is expected that the ecological scale at which firms respond to their environment will vary in response to firm-level factors.

**Ecological Versatility** The degree to which firms can fully exploit the resources in their operational environment, with specific concern for gaining, processing and translating the resources to best match the requirements of their environment.

**Emergy** The energy independently (and generally) available that can be converted and used to the advantage of any given firm, for example, the positive (but incidental) influence from the advertising of another larger more powerful firm.

**Environment** See ‘common environment’, ‘external environment’, ‘operational environment’ and ‘potential environment’.

**Ephemeral Epiphenomena** We see populations and/or communities as the transient by-product of individual-level behaviours, which means they are more conceptual than real.

**Environmental Factors** The sum total of all environmental phenomena that: are currently operationally related to a firm (its operational environment), were previously operationally related to a firm (its historical environment), may be operationally related to a firm in the near future (its potential environment), or are unrelated operationally to a firm, despite their spatiotemporal presence (its external environment).

**Environmental Matching** Firms persist in their operational environment through their ability to match the requirements of the environment, using their sensory abilities to ensure their environment does not exceed their individual tolerances.

**Environmental Modification** Occurs when a firm alters the feature–factor relationship that exists between the firm and its operational environment.
External Environment  Broadly speaking, the external environment typically refers to the sum total of all factors external to the firm that may potentially influence its survival. More specifically, it is all factors external to the firm’s operational environment, some of which may eventually become relevant to the firm through the firm’s potential environment.

Facilitation  Connotes positive interactions due to resource sharing within a guild, see Rathcke (1983).

Feature–Factor Relationship  At any given moment in the lifeline of a firm, a constant relationship exists between the firm’s features (form, structure, functions, activities) and the interacting elements they produce and all variable (or factors) present in the firm’s operational environment.

Firm  A firm is a non-autonomous entity, located in an operational environment, and is socially constructed, goal-directed, boundary maintaining and maintained through sustenance activities.

Firm Adaptation  An outcome of multiple ecological processes acting upon firms that maintain their existence across time by matching the changing requirements of their operational environment.

Firm Features  All firms, to varying degrees, are comprised of individual habits, firm routines, goals and boundaries. Together, these components produce interacting elements (humans, technology, products, services and the identity of the firm) that collectively are the features of the firm.

Foraging  In this context, all firm-level behaviour aimed at acquiring, converting and utilising the resources needed to persist through time.

Generative Mechanisms  Consistent with Bennett and George (2003), we view generative mechanisms as unobservable social, physical, and psychological processes that, under specific conditions, have the potential to transfer energy, information, or matter to other entities.

Heuristic Generalizations  The process of elevating observable firm–environment interactions above popular single process explanations to frame which investigation questions are ecologically relevant.

Human Ecology  See ‘organizational ecology’.
Interacting Elements Three areas of interaction are: 1) human and technologically controlled activities, 2) the products and services produced, and 3) the actual identity of the firm.

Lifeline The life history of an individual firm, from which the different feature–factor relationships between firm and operational environment can be reconciled across time.

Organizational Ecology The study of firms (once aggregated into populations with unit character) in which assumptions are made about the tendency of firms to: operate as specialists or generalist, have limited adaptive abilities through structural inertia, and be subject to a common selection environment vis-à-vis the population to which they belong.

Operational Environment Refers to all observable environmental phenomena that are operationally related, directed, timed, ordered and spaced by and across the lifeline of a particular firm.

Operational Relations All observable environmental phenomena that are operationally related, directed, timed, ordered and spaced by and across the lifeline of a particular firm through which the interaction between firm and environment is knowable.

Persistence The ability of a firm to maintain operational relations with its local environment through time despite not always achieving optimal matching to its environment.

Population In organizational ecology is an observable number of firms deemed similar enough to belong to a population of firms. In autecology, the focus on individual firms relegates the concept to that of epiphenomenon.

Potential Environment The potential environment is simply a potential future state of the operational environment, including provision for new factors in the broader external environment to become relevant to the firm, and for the firm to modify the nature of its existing operational environment.

Principle of Consistency Defined by Hodgson (2001: 90): ‘explanations in one domain have to be consistent with explanations in another, despite examination of different properties and deployment of different concepts’.

Resource Partitioning In organizational ecology, resource partitioning relates to increases in the failure rate of generalists and a lowering of the
failure rate of specialists when market concentration increases. In firm autecology, is viewed as any difference in the resource utilization among related firms, specifically with reference to spatiotemporal and resource-type factor.

**Retroduction** A form of reasoning that occurs as an *initial* thought process through which the provisional plausibility of something is held to be possible.

**Sensory Abilities** The ability of firms to discern the nature of their environmental surrounds so as to increase the degree of situation awareness held within the firm.

**Situation Awareness** Defined as ‘the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning and the projection of their status in the near future’ (Endsley, 1995: 36).

**Sub-type** A sub-type of firm describes a type of firm that comprises a cryptic firm complex, demonstrating different properties (e.g. form, structures, functions and/or activities) to closely related firms in a particular industry.

**Survival** See ‘persistence’.

**Sustenance Activities** Can be considered regular, organized and enduring activities aimed at supporting firm survival (Gibbs and Walter, 1959). They are the mechanisms related to information gathering, sense-making and response, through which firms maintain their persistence.