

THEORY REVISION: SUSTAINABLE ECONOMIC SYSTEM

Abstract: Purpose – The aim is to review and reapply the two key components of Wroe Alderson's conceptual legacy - functionalism and the molar approach - to a discussion of a sustainable economic system.

Design/methodology/approach – This is a critical and interpretive analysis of an abstract economic-system-as-societal-entity conceptualised by Alderson. The guru's concept "transvection" is revised to explain a sustainable economic system as networks of transformational interactions among its sub-systems.

Research implications - Our conceptual synthesis a) draws attention to possibilities of developing a robust analytical framework based on Alderson's perspective; b) offers further insights through a system understanding of the transvection concept; c) reconceptualises an economic system's sustainability; d) provides a perspective to resolve a number of conceptual controversies related to economic systems.

Practical Implications – This conceptual inquiry reveals that sustainability cannot be imposed externally on the economic system. Instead, system planners must empathically support transvective transformations which meaningfully communicate a distinction between sustainable and self-corrosive practices.

Originality/Value - This discussion is original in drawing on Alderson's largely dormant research agenda developed some 40 years ago, and in connecting it with a contemporary concern for sustainable development.

Introduction. There is widespread condemnation of economic systems that propagate socially and environmentally corrosive consumption, waste, and pollution. In addressing sustainable development issues, Wroe Alderson's pioneering work comes back to the fore (Wooliscroft et al., 2006). Alderson came close to providing a logical normative theory for sustainable economic system. Alderson died unexpectedly in 1965 at the age of 68, having produced two seminal works (1957, 1965). Some commentators have identified him as the most important theorist of the mid 20th Century. His comprehensive and extended research agenda (Alderson, 1965) remains largely dormant and untapped in the discipline. We attempt at extending Alderson's unfinished formal theory project to contemporary thinking about sustainable development. The starting point for this project was to ask whether Alderson's perspective could contribute to our understanding of an economic system as a well-being generator.

Alderson pioneered the shift from the macro level of analysis of functions, institutions, and commodities to the micro level of management within the larger totality (Alderson, 1965). His system approach highlighted concepts of organised behaviour systems, heterogeneous markets, and logistic processes. He looked at how a meaningless heterogeneity of natural agglomerations is transformed into a meaningful heterogeneity of goods assortments.

Alderson's Legacy. We note that Wroe Alderson's legacy is based on two fundamental perspectives: functionalism and the molar approach. Functionalism is the perspective that takes a phenomenon as a holistic system that has a capacity of self-coordination. The molar approach is the specific method of formalisation that is based on developing relevant propositions and working backwards to falsify these end results of conceptualisation, grounded in data obtained through direct observation of the totality of phenomena, for the purpose of building a formal logical systems understanding of marketing and economic systems.

Functionalism. A key to understanding the essence of Wroe Alderson's legacy is his interpretive approach: functionalism. As Alderson (1965) explains, the functionalist approach is

based on the notions of systemic wholes, their inter-relations, and a unique function in reference to the environment:

...functionalism is the school which is interested in systematic wholes and applies methods for their study derived from biology or directly from the behavioural fields themselves (Alderson, 1965, p. 9).

The origin of this approach can be traced in a similar perspective which has extensively been used in the field of physiology. In that field, the general purpose of functionalism is to identify those general functions of a system which define and regulate the main conditions of a system's "health" within the environment. The key purpose under this perspective would be to identify the nature of homeostatic equilibrium in the system, for example, maintenance of steady states in different behavioral and internal aspects of an organism in response to changes in the environment. The mechanistic viewpoint treat the economic system as a "lifeless" object that ceases to exist once the factors which causally determine it undergo radical changes or different factors enter the situation. Many theorists tend to see economic systems in terms of an ad-hoc collection of their structural parts but fail to understand them in terms of their holistic character.

The molar approach. Another starting point for Alderson's theorisation was an attempt to create a formal system of provable propositions. This was essentially an important challenge for any field of inquiry at that time. For example, in the late 1920s David Hilbert called for creation of a consistent and complete axiomatic system of mathematical reasoning within which any theorem could be proven either true or false (Casti, 1996). The proper formalisation of theory should include symbols (elements), rules of symbol manipulation, axioms, theorems, and rules of interpretation (Hunt et al., 2006). Similarly, Alderson's formal theory of economic consists of propositions and the rules of logical inference (Alderson and Martin, 1965). Propositions may be either "taken as given" (axioms) or "need to be proven" (theorems). Following this logic, Alderson develops fundamental axioms which are divided into three classes: sets, behaviour, and expectations. The axiomatic domain of sets includes the concepts such as collections (conglomerates, assortments), open and closed organised behaviour systems, and mechanical systems. The domain of behaviour comprised congenial behaviour, instrumental behaviour (individual and joint decisions, sorting and transforming effort), whereas expectations were divided into values and information. Values included buyer/seller exchange potency, use potency, progress productivity, and survival productivity. Information incorporated the concepts such as search, learning, and blaze (consumer foresight and insight). Alderson provisionally takes all these concepts to represent the basic axioms of the formal system of economics, and develops a definition for each of them (Alderson and Martin, 1965).

Transvection and Sustainable Economic System. Alderson predicts that the concept of transvection "will become one of the most powerful tools of system planning" (Alderson, 1965, p.351). Some researchers argue that it may well be considered one of the most significant concepts in economics of the current time (Priem et al., 2006). It is stated that "a transvection is in a sense the outcome of a series of transactions, but a transvection is obviously more than that ... a transvection includes the complete sequence of exchanges, but it also includes the various transformations which take place along the way" (Alderson and Martin, 1965, p.118). The dynamic model of the original view of transvection is depicted in Figure 1.

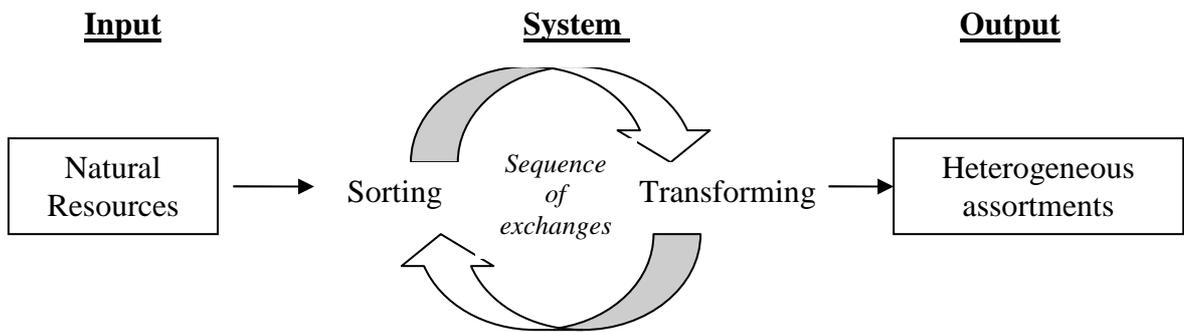


Figure 1. Transvection as a system depicted through an input-output schema

The concept of transvection, when taken as a system, can best be explained through the input-output schema. The input is natural resources, which go through several stages of sorting and transforming iterations, at the same time being pushed downward the value chain by a sequence of exchanges. The output of the system is heterogeneous assortments, which are the product of both the system's internal technology and its social link to the outer environment. In this sense, the system is called a socio-technical system (Emery and Trist, 1960). In Figure 2, we offer a revised version of the transvection model. Considering that Alderson's objective is a "pathological therapy" of the economic system, we would maintain that the output should be depicted as sustainable value, i.e. sustainability, individual happiness, and social welfare.

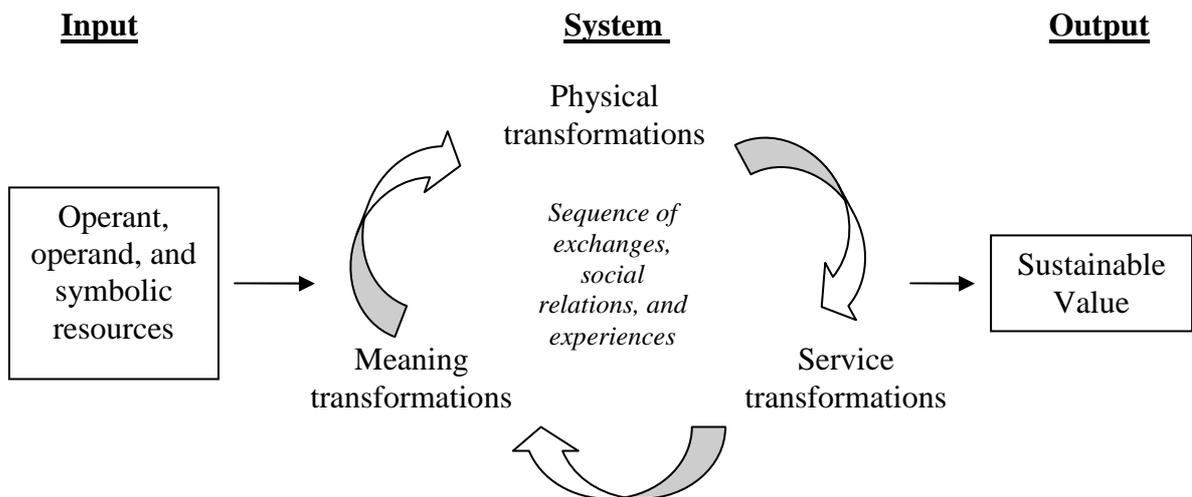


Figure 2. Transvection as a sustainable value enacting system

The revised version of the transvection model does not differ substantially from the original model except in its scope. Although the basic assumptions remain the same as have been conceptualised by Alderson, the model has several aspects that need to be discussed within this reformulation. Resources can be operant, operand, and symbolic. The model needs not to be limited to natural resources. Resources are not only physical, static, and finite. For example, the service-dominant logic distinguishes between operand and operant resources (Vargo and Lusch, 2004). Operand resources are those on which an action is performed to create value, and they include natural resources. Operant resources symbolise knowledge, skills, competencies, and capabilities by means of which actions are performed on operand resources. Yet the other types of resources are symbols, signs, and artefacts (Levy, 1959, Bagozzi, 1975, Brown, 1995). Marketplace actors draw on symbolic resources to accomplish meaningful transformations in creating the experiential aspect of value. The end result of transvection is value. The notion of value is not only limited to consumer value, but also to common societal value that is accrued by resource providers, manufacturers, intermediaries, service providers, and other stakeholders. The value accrued from the economic system needs to be generated in a sustainable way, i.e. the outflow of value should at least be stable, and moreover, the current value creation practices should not jeopardize the possibilities of comparable value creation in the future. The processes

of the economic system occur within the three distinct domains: physical, service, and meaning transformations. Alderson's notions of sorting and physically transforming assortments are included in the domain of physical transformations. Besides, the service-centred logic recognises marketing as a social process of creating and resolving service exchanges (Vargo and Lusch, 2004). We argue that the phenomenological meaning creation experiences also become part of transvection. Meaning transformations are not only relevant to the ultimate stage of consumption as it has usually been conceptualised, but also to any stage of the transvectional domain. Consequently, sustainable transvection is an issue of how operant, operand, and symbolic resources are handled through physical, service, and meaning transformations, while not compromising the traditional view of fair distribution of resources among the current and future generations.

Sustainable economic system. Transvection is communication. Alderson (1965) notes Claude Shannon's concept of a long noisy channel (Shannon, 1949) as a relevant theoretical background. Through this concept Alderson compares transvection to a state of order that is generated within the noise. Similarly, this process is referred to as communication that is shaped from within the complexity, and this kind of communication is activated to differentiate the system from its complex environment. The economic system as a unity of transvections is expected to operate a distinction. This operation allows the economic system to coordinate its own operations according to the distinction. Every operation (transvection) of the system is observed within the temporal dimension: current operations are observed in the context of expected future value. In a sense, the future is brought to the present, the process that allows the economic system to develop self-corrections. Resources, value, and organised behavioural systems (actors in the system) represent complexity. These factors are not given. They are emergent constructions that are enacted by the economic system. So the meaning of these constructs changes according to the contexts within which they are operationalised within the systems' structure. For example, what is accepted currently as a resource would lose its importance in the future (use of coal), and new types of resources could be introduced (for instance, a stronger computational capacity).

Implications. Several research and practical implications of this conceptual work deserve an attention. First, contrary to a common attitude that Aldersonian thought is outdated, our synthesis indicates a fruitful ground to develop contemporary thinking based on a holistic acceptance of Alderson's perspective. Moreover, this work offers further insights into the systemic understanding of transvection. From our perspective, transvection is a systems operation. We feel that transvection should become the factor in any investigation of sustainable development in economic systems. This concept can potentially unite diverse insights from such areas as environmental economics, political economy, supply chain management, total quality management, customer relationship management, marketing, and experiential consumer studies. Finally, this paper offers a valuable perspective which may resolve numerous conceptual controversies. For example, while sustainable development enthusiasts are calling for the elimination of excessive and corrosive production and consumption, the cultural perspective indicates that production/consumption in any form is a part of meaningfulness of life (Schaefer and Crane, 2005; Dolan, 2002). Morality and normative judgments imposed by an external observer on the economic system processes should be distinguished from the self-referenced morality. Here, research inquiries will be guided by the system's enactments of sustainability, rather than a researchers' opinion on what is sustainable or unsustainable. Sustainability cannot be imposed externally on the economic system, but instead, system planners and practitioners, by treating the system as a live self-coordinating entity, could empathically support transvective transformations which meaningfully distinguish between sustainable and self-corrosive practices. For example, instead of heavily promoting supposedly "green" products and thereby claiming to contribute to sustainability, managers should design communication strategies which reflect and disseminate the examples of best green practices on the part of any actors in the system. Economic system planners need to promote and facilitate any discourse based on this distinction, even those discourses which challenge the main assumptions of sustainable development. As long as this distinction is under the focus of a majority, and is not dropped from consideration in public meaning spaces, the sustainable economic system will continue to materialise.

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