

# Why is Economics not an Evolutionary Science?

Thorstein Veblen

With an introduction by Jean Boulton

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‘Why is Economics not an Evolutionary Science’ was written in 1898 and is a very significant paper. It called into question the premise that the physics of equilibrium thermodynamics is pertinent to analysing economic systems; indeed it called into question the premise that economic systems do, indeed, tend to equilibrium. This is in contrast to his contemporary, Walras (1874), who expressed the view, in ‘Elements of Pure Economics’, that ‘...*this pure theory of economics is a science which resembles the physico-mathematical sciences in every respect*’.

Veblen, in contrast, suggested that the only *rational* approach is to assume economies evolve; otherwise, he argues, we can *describe* the economy but have no effective theory of change and development.

## ***Evolutionary economics is the only rational proposition***

Veblen starts by asserting that (all) modern sciences are evolutionary sciences (p 374). Having given the intellectual high ground to evolution, he states that economics is *helplessly behind the times* in not being evolutionary (p 373). From the perspective of 2010, this is fascinating. We would not now, I suspect, use the word ‘evolutionary’ to epitomise modern science and, one hundred years later, evolutionary economics is still, perhaps, seen as rather on the edge of mainstream economics.

Veblen bands together Smith’s view of the economy moving due to natural law towards a balance and the scientific view of the economy reaching equilibrium. He compares them with an evolutionary perspective and says that the difference is a *difference of spiritual attitude or point of view* (p 377). He views ‘natural law’, *due to the guidance of an “unseen hand”*, (p381) as something that exercises *some sort of coercive surveillance over the sequence of events, and [gives] a spiritual stability and consistence* (p 378). He talks of the physics theory of the *tendency to an equilibrium.... being a formulation of the conditions under which this ‘putative equilibrium supervenes’* (p383). This phrase, ‘*putative equilibrium supervenes*’, encapsulates his disdain for the idea. This is fascinating. The tendency towards equilibrium, based as it is on the adoption of equilibrium thermodynamics, is generally regarded –then as now - as scientific. Veblen, however, classes this assumption - that economies ‘normally’ tend towards equilibrium - as no more rational than the spiritually-based notion that there is a final cause or teleological pull towards some natural outcome due to natural law; that is, *a preconception regarding the ends to which, in the nature of things, all things tend* (p392). He rather sarcastically suggests that *in effect, this preconception imputes a tendency to work out what the instructed common sense of the time accepts as the*

*adequate or worthy end of human effort* (p382). This is reminiscent of Einstein's oft-quoted comment that '*common sense is the collection of prejudices acquired by age eighteen*'.

### ***Veblen's view of evolution***

Veblen makes a very incisive point when he says that the idea of an economy *with a tendency to an equilibrium* is at best a *body of logically consistent propositions concerning the normal relations of things – a system of economic taxonomy* (p383-4).

To focus on a description of end points and to assume equilibrium results in the same outcome as when we develop a taxonomy of animal or plant species; it gives a description of how things are when they are stable but provides no information about the process of change.

This is an interesting and insightful challenge and one which is still alive in complexity circles today. Some complexity theories, for example Bak (1996), focus on the stationary state or ensemble of stationary states towards which systems (or ensembles of systems) tend. Power law characteristics, as described by Bak, can be seen as a form of taxonomy. Other approaches, for example Allen (1988), seek to explore how systems dynamically evolve – and evolve in a way which cannot be predicted in advance and which relies on variation and the passage of time.

The argument about evolution in the late nineteenth century centred on whether time had a generative part to play or was incidental and on whether evolution was deterministic or affected by variation and chance. Lamarck, for example, whilst he accepted that evolution unfolded over time, saw this unfolding as deterministic; so the picture could be expressed entirely in atemporal tables of genera and species. Darwin, in contrast, saw the passage of time as fundamental; the variation and chance that led to what in particular emerged, to the particular path that evolved, depended intrinsically on time passing.

Evolutionary economist Geoffrey Hodgson (1998) has written his own critique of Veblen's paper and he discusses the fact that Veblen, influenced by the differing strands of evolutionary theory, was somewhat inconsistent in his view of the nature of the evolutionary process. Hodgson says that Veblen was much influenced by Spencer, who Hodgson (1998:416) describes as a *biological reductionist*, in the way of Lamarck. Veblen, in this paper, however, describes evolution variously as *a theory of a process, of an unfolding sequence* (p375) and *the orderly unfolding development of fact* (p376) ...and *the theory of a developmental relationship* (p376) ...and *the concept of dispassionate cumulative causation* (p381). Veblen captures the notion of process, of development, of flow and he captures its systemic and path-dependent nature (in describing it as cumulative causation). However he does not focus on the inherent uncertainty of evolutionary processes and the way they can be triggered by variation. He, rather, in the use of the word 'unfolding' and 'orderly unfolding' seems to suggest, in choosing those words, that evolution could be predictable and follow a definite path. So there is some inconsistency in his view at this stage. According to Hodgson (1998:417), Veblen, in later papers, became more critical of Spencer (1898) and was

influenced by Veblen's former teacher, Pragmatist philosopher Charles Peirce and by Peirce's contemporary William James and their view of the reality of human initiative and the role of novelty and chance.

### ***Human learning, the beginnings of a socio-technical theory and definitions of evolutionary economics***

Veblen is insistent, however, that we cannot understand economics without paying attention to human learning. As he says, *the physical properties of the materials accessible to man are constants; it is the human agent that changes - his insight and his appreciation of what these things can be used for is what develops* He says that capital is conceived of as a mass of material objects serviceable for human use but that this is not enough when we are considering a dynamic process. He reflects that, in fact, capital includes *human knowledge, skill and predilection*. He feels that *prevalent habits of thought... enter into the process of industrial development*. In other words, he is referring to human knowledge as capital (p387-8).

He goes on to describe a reflexive process between human learning and its impact on *mechanical contrivances* and states that what this implies is that study must be made of action (p388); in other words he is advocating an empirical approach towards economics and signalling a socio-technical reflexive process, developed much further by Nelson and Winter (1982). Veblen describes this reflexive process eloquently:

*The economic life history of the individual is a cumulative process of adaptation of means to ends that cumulatively change as the process goes on, both the agent and his environment being at any point the outcome of the past process* (p391).

Veblen, indeed, developed definitions of evolutionary economics. For example, he says that *the economic life history of any community is its life history in so far as it is shaped by men's interest in the material means of life* (p392). He says that *an evolutionary economics must be the theory of a process of cultural growth as determined by the economic interest, a theory of a cumulative sequence of economic institutions stated in terms of the process itself* (p393). It is likely that these are the first definitions of evolutionary economics – and captures the path-dependent and co-evolutionary quality that it embraces. As Hodgson (1998) points out, it is also very interesting in that Veblen does not see evolution as something that happens primarily to individuals but as a collective change to societies, and collections of institutions. Hodgson believes that Veblen was influenced by zoologist and philosopher C. Lloyd Morgan (Hodgson 1998:421). Morgan promoted the idea of an emergent level of socio-economic evolution that was not explicable exclusively in terms of the biological characteristics of the individuals involved. And Hodgson (1998:423) tells us that Veblen, in 1896, wrote *'the struggle for existence, as applied with the field of social evolution, is a struggle between groups and institutions rather than a competition... between the individuals of the group'*. This view of emerging patterns and regimes in social and economic systems paved the way for much later work in evolutionary economics.

## ***Growth and Development***

It is interesting to consider whether Veblen takes a normative view of the evolution of the economy. Does he see that the economy should or does get either bigger or better; is there an underpinning assumption of progress? There is little to suggest that he does. First, he speaks of evolution as *dispassionate cumulative causation* which portrays little sense of intrinsic purpose. He is also dismissive of Smith's invisible hand which would lead, through natural law to a 'good' balance as '*good*' is what '*conforms to nature*' (Roncaglia, 2009). He does, however, talk about evolution providing a *theory of a developmental process*. And he goes on to say that *it is the human agent that changes – his insight and his appreciation of what these things can be used for is what develops* (p387-8) and speaks of a *cumulative growth of habits of thought* (p394). This does hint at the notion that human agents evolve and that their thinking matures in this process.

Veblen does talk of evolution as a *process of cultural growth* (p393) but, in fact, he is very clear that such growth is not necessarily qualitatively better than what was before. He states that *economic action may or may not be teleological in the sense that it tends or should tend to any end that is conceived to be worthy or adequate by the inquirer or by the consensus of inquirers*. In other words, man may do things towards an intended end, but whether or not this is or is not a laudatory end is a matter of opinion.

Veblen then states very firmly that *whether [the action] is or is not [worthy] is ... a question of which an evolutionary economics need take no account*. (p392). So he does not see evolutionary economics as an ethic but as a dispassionate science.

Veblen seems to use the word 'growth' to mean 'change' and does not impute any tendency for this change to be about progress or cultural transcendence in any way. It is also interesting to note that Veblen makes no mention of quantitative growth; the idea that economic growth was a valid or appropriate or self-evident goal or likely outcome is given no consideration.

## ***Rational man***

Veblen was scathing about the theory of economic, rational, man, which he deems a *hedonistic psychology*. As he says, *under hedonism, the economic interest is not conceived in terms of action... in terms of a cumulative growth of habits of thought* (p394). He feels that economies populated with rational man cannot change and develop. Indeed, he waxes lyrical on the topic (p389-90):

*The hedonistic conception of man is that of a lightning calculator of pleasures and pains, who oscillates like a homogeneous globule of desire of happiness under the impulse of stimuli that shift him about the area but leave him intact. ..He is an isolated, definitive human datum, in stable equilibrium except for the buffets of the impinging forces that displace him in one direction or another. Self-poised in elemental space, he spins symmetrically about his own spiritual axis until the parallelogram of forces bears down on him, whereupon he follows the line of the resultant.'*

## **Conclusion**

I find Veblen's paper one of the most exciting and stimulating papers I have ever read. I feel he touches on most of the challenges that economists ever since have raised about mainstream neo-classical economics (for example Fullbrook, 2004). Alan Greenspan (2008), for example, writing about 'rational man' says:

*'Asset-price bubbles build and burst today as they have since the early 18th century, when modern competitive markets evolved. To be sure, we tend to label such behavioural responses as non-rational. But forecasters' concerns should be not whether human response is rational or irrational, only that it is observable and systematic.'*

This could equally well have been written by Veblen in 1898.

So I like this paper because it reminds us that most of what we think has been thought before, just not acted upon; because it seems to sow the seeds for much of what followed in terms of complexity and evolutionary economics; because reading it rewards us with greater insight if we try to explore the context in which it was written rather than just interpret from our own contexts. And, finally, I like this paper because of Veblen's sheer command of language which gives to scholarly debate a literary quality to which I can only aspire.

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