

# The Evolution of Darwinism in Business Studies

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## Abstract

The current invocation of Darwin in accounting research is not matched to the earliest invocations of Darwinism in accounting and economics. The study has two objectives: to document the change from Darwinism meaning ‘the scientific method’ to Darwinism meaning “survival of the fittest”; and secondly to describe Lamarckism as the more correct descriptor of cultural evolution than Darwinism. Lamarckism deserves to be better recognized as providing the correct understanding of the evolutionary drivers to selective, purposive, adaptive, and deterministic evolution by our markets, institutions, or firms.

## Introduction

It is one hundred and forty seven years since publication of *The Origin of Species* by Charles Darwin (1859); the book itself was a slender volume, but both the intellectual scholarship and the intellectual legacy from this publication continues to influence nearly all of academic enquiry. Accounting and economics research has not been left out, nor should it be. For it was from economics that Darwin developed his models of diversity. As a heavy investor in industry shares, it was the industrial progress of the nineteenth century that inspired Darwin’s idea of mechanisms to create diversity (Desmond and Moore, 1991: 420). In common with Herbert Spencer (a railway surveyor), such men appreciated division of labour and specialisation; “the industrial metaphor seemed to stretch to nature herself” (*ibid*: 420). Spencer went on to develop the concept of “Social Darwinism,” still influential at an academic level and inescapable at a popular level. In the 1850s, the creation of wealth and the production of species were considered to obey similar laws (*ibid*: 420).

But can the resultant theories of the origin of biological species by Charles Darwin and others then be applied to the evolution of wealth, corporates, and industry? Unlike organisms, human artefacts such as markets, institutions or labour forces are not limited by structural consideration to a restricted range of opportunistic activities or choices. They neither procreate in their likeness nor die. The source of variation in individual organisms is not paralleled in the sources of variation and diversity in the range of human artefacts subject to inquiry by economists.

It is proposed that discourse with the objective of the construction of a clear understanding of mechanisms and drivers behind survival or failure of economic activities should turn away from reputable “Darwinism”, and instead give due credit to the distinctive nature of the processes of cultural evolution, Lamarckian in character. There have in the past been articles that utilise Darwinism, as in the scholarship of Frank Birkin and his colleagues. As they noted, “the Darwinism concept of survival of the fittest provides little reason for the accountant to consider anything larger than the individual firm” (1997). However, there has been no detailed attention to what how term Darwinism has metamorphosed over the last one hundred years of scholarship in accounting and economics research.

Previous research, has, however, provided readers with an erudite and clearly argued appreciation of different facets of Marxism. Like a stone cut with many facets, readers of Marx find within his writings multiple theoretical underpinnings for research and analysis, irrespective of whether or not Marx himself would recognise the use of his theoretical writings his legacy to Western philosophy. It is thus possible to identify simultaneous writers as a ‘Type A’ or ‘Type B’ Marxists. As documented by Tinker (1999), these multiple perspectives occur in accounting literature concurrently. Tinker further describes accounting research as being disabled by using what appear to be only caricatures of Marxism (1999, p. 663), and his 1999 analysis offers readers a deeper understanding well beyond caricature.

This research is offered in order to match such analysis of Marxism. However, in a manner distinctly different to Marxism, Darwinism may well be part of a pervasive undercurrent to Western thought, but it is a part that periodically surfaces, like Proteus, with a completely different appearance. Therefore those invoking Darwinism in any one period are perceived as one genre only, albeit with variations. But the genre itself has changed radically over the last century. The Darwinism currently

recognised is described as follows: “Those parts of Darwin’s theory that are relevant to accountancy are:

- Evolution from primitive beginnings to the “latest” organisations of increasing complexity
- Incremental processes of change governed by painstakingly slow processes of trial and error, and
- Emphasis on the specialised adaptation of individuals at least isolated from, if not struggling with, the larger environment.” (Birkin et al 1997)

However, such an understanding of Darwin’s theory was not matched in the earliest invocations of Darwinism in accounting and economics. It is the first objective of this study to document the change from Darwinism meaning ‘the scientific method’ to Darwinism meaning “survival of the fittest.” The second objective is to describe Lamarckism as the more correct descriptor of culture evolution than Darwinism. A more exact use of such terms in theoretical analysis would also describe more exactly the type of evolutionary mechanisms being invoked.

## **DARWINISM, LAMARCKISM, AND SOCIAL DARWINISM**

There has been much scholarship concerning the distinction between Darwinist, Lamarckian, and Social Darwinist theories. When Darwinism is applied to human endeavour it is more correct to title the descriptor as Social Darwinism or Lamarckism.

### *Social Darwinism*

Social Darwinism was the theory of social evolution developed by Herbert Spencer before Darwin's scholarship. The evolution of societies, the creation of wealth and the production of species were all considered by Spencer to obey similar laws (Desmond & Moore, 1991: 420). It was Spencer who termed the phrase: “survival of the fittest”. Darwin borrowed this phrase in the fifth edition of *The Origin of Species*; in turn, Spencer seized on Darwin's syntheses to bolster his philosophy (Graham, 1999: 23). It has a poor reputation now compared with Darwinism, and Bowler expressed concerns that the oversimplified notion of Social Darwinism has stood in the way of efforts to develop a better understanding of changes in society (Bowler, 1995: 111). Although

Darwin's theory reflected an ideology of *laissez-faire* individualism, the same can be said of Spencer's Social Darwinism, which Bowler prefers to call Spencerian Lamarckism.

### *Lamarckism*

Jean-Baptiste Lamarck's contributions were developed in the first two decades of the nineteenth century; his last major exposition was in 1815, long before Spencer or Darwin. His theory advocated two factors in the process of organic change:

- the natural progress of organic development; and
- the modification of such progress by constraining circumstances (Burkhardt, 1977: 154).

It is also of note that the inheritance of acquired characteristics did not originate with Jean-Baptiste Lamarck, and initially he did not advocate such a mechanism. However, as his ideas developed it became a fundamental tenet of "Lamarckian" theories of organic change. Lamarckism can be summarised as *the inheritance of acquired characters*; in a changing environment, a set of habits could be a spur to adaptation, based on the doctrine of use and disuse. Lamarckism came to be understood as a theory of directed evolution: variation originates preferentially in adaptive directions. Although much scholarship has identified that evolution in human society has all the hallmarks of Lamarckism, rather than Darwinian evolution, the debate on the correct evolutionary mechanism is not so significant in the context of this research. Both Darwinism and Lamarckism embrace the belief that progress is achieved as a result of the "struggle for existence" and this metaphor transcends the debate concerning the correct invocation of an evolutionary mechanism for cultural and social evolution (Bowler, 1995: 110).

So by whatever name, this metaphor invokes the struggle for existence. Earlier references to Darwinism, however, were used as a metaphor for the scientific method.

### **The Origin of 'Darwinism' and Veblen's Scholarship**

To untangle both the source and status of Darwinism as a reputable icon of evolutionary processes in evolutionary economics and accounting, let us turn to one of the significant early theorists in evolutionary economics by examining Thorstein Veblen's invocation of Darwinism. Veblen was an early advocate of the Darwinian

approach. However, Veblen did not espouse that there was a dynamic in economic change that paralleled biological evolutionary change. Veblen advocated a Darwinian approach, as to him, Darwin's method of scientific inquiry was an exemplar for economics.

Veblen had considered at length the status of inquiry by economic scholars at the turn of the century. In his 1898 essay on "*Why is economics not an evolutionary science*" Veblen argued for the development of a close-knit body of theory, based on evaluation of facts with a scientific impartiality (republ. 1990: 58-60). He did not discuss Darwinian theory; but only chided the Historical School in classical economics for following the lines of pre-Darwinian speculation (*ibid*: 72). Veblen advocated approaching a question on the Darwinian basis of cause and effect, and analysis in terms of habit and response to stimuli (1990: 443).

In a 1936 reprint of Veblen's writings, Mitchell's introduction described Veblen as a good Darwinian in respect of making only slight use of measurements, and mainly utilising qualitative analysis (Mitchell, 1936: xxx). Mitchell described Veblen as having moulded his notions of human nature on Darwin, William James, and anthropological studies (*ibid*: xxvi), and his basic criticism of economics was that the prevailing concepts and methods of inquiry were pre-Darwinian (*ibid*: xxiii). None of this discussion of Veblen, and his advocacy of the Darwinian method, referred to evolutionary processes that were adaptive, progressive, or deterministic. Indeed, in 1936 Mitchell described the Darwinian approach as advocated by Veblen, being characterised by:

- blindly cumulative causation, in which there is no final term, no consummation;
- a less metaphysical approach (*ibid*: xlvi); and
- a speculative system uniting a vast range of observations into a thoroughly consistent whole (*ibid*: xxxvi).

Referring to Veblen, Mitchell described that:

"Having climbed to Darwin's mountain peak, his eyes ranged over a vast stretch of human experience. About many matters quite invisible to economists immersed in the 19<sup>th</sup> century he thought intensively" (1936: xxxii).

However, over the next fifty years, the meaning of the term Darwinism appeared to shift and by the time Simich and Tilman prepared their 1985 reference guide to studies of Veblen's contribution to economics, there were references to more than twenty studies most of which described that Veblen was emphatically and fundamentally a Darwinian, and that Veblen introduced Darwinian evolutionary analysis into economics. In the midst of these studies were a few in the 1940s and 1950s describing Veblen's Darwinism as a façade; that Veblen misunderstood Darwinian evolution. However, these studies did not undermine an increasingly strident invocation of Darwinian evolution as providing mechanisms describing evolution in economics. For example, the introduction to the 1990 reprint of Veblen's writings, W. J. Samuels described Veblen as adopting a "Darwinian conception of change as an unfolding sequence without necessary ultimate meaning" (1990: xiii). Post-Darwinian science focused on the process of causation, and Veblen advocated an evolutionary science of economics that was based on theories of cultural growth as determined by economic interest, i.e. cumulation, variation, and selection (1990: xiv).

In Tilman's review of the contribution by Veblen to the development of economic theory, he reviewed Veblen's Darwinism versus Critical School Dialectics, suggesting that the scholars such as Marcus, Horkheimer, and Adorno viewed Veblen's roots lying in American pragmatism, a major weakness of which was reliance on the natural sciences as models for philosophical analyses. Adorno suggested that "the concept of adaptation is the *deus ex machina* through which Veblen tried to bridge the gap between what is and what ought to be" (Tilman, 1991: 191); and Veblen's adamant commitment to Darwinian empiricism meant that for Veblen, "all social change is the result of mere animal-like adaptation, devoid of conscious decision making concerning means and ends" (*ibid* 1991: 191).

Veblen's failure to make policy recommendations was "logically consistent with his evolutionary, Darwinian perspective that saw the instrumentally adaptive efforts of the community always falling short of what was needed, since institutional reforms would be obsolete by the time they could be implemented" (Tilman, 1991: 264).

However, in Rutherford's review of Tilman's *magnum opus* of the intellectual legacy of Veblen, he claimed Veblen's use of an analogy to natural selection is closer to a Lamarckian process than a Darwinian one; but Rutherford suggested that Veblen was

not a Lamarckian, in that he denied acquired traits would become instinctive, and also denied existing instincts could be lost. The source of this claim is not clear.

Was Veblen the only founding father in economics who could have been the source of the utilisation of Darwinism as the mechanism of evolution during change? Some authors have also suggested that Schumpeter's contribution to the development of economic theory showed the usefulness of Darwinian theory for economics, and "the precise nature of evolutionary forces at work in economic systems" (Kelm, 1977). This claim remains contentious. Hodgson (1997) believed that Schumpeter rejected biological metaphors and analogies, and Schumpeter was not a "Darwinian".

Darwin was later invoked in the accounting discipline. This was part of an advocacy of the scientific method for a young discipline, in a manner parallel to Veblen's references. This occurred as part of a debate in the 1940's and 1950's concerning the adoption of scientific methodology for accounting, not only in research but in accounting practice, typified by Edward Stamp's essay "*Why can accounting not become a science like physics?*" (1981). Earlier Stamp had noted: "I do believe that it will be possible to achieve uniformity of theoretical and conceptual foundations in much the same way that Darwin and his successors have been able to bring order out of chaos in the life sciences. We must bear in mind however, that accountancy and economics deal with states of mind as well as states of nature, and this makes it harder for the accountants to find common ground between different points in time and space than it is for the biologist, let alone the physicist" (1972: 64).

In these two disciplines, there was a dominating metaphor of a mechanistic explanation for their subject matter. Economics, business organisations, and capital markets were considered to operate as machines: inputs and outputs, controls and regulators. There was no Darwinist metaphor of a struggle for survival in the writings of Veblen or Stamp. It was only later in these disciplines that the mechanistic metaphor was replaced by a biological one (Hodgson, 1995: 315).

In addition to the different perspectives on such a fundamental issue is the significance of the implicit adoption of Darwinian evolutionary mechanisms by such writers. The paleontologist Stephen J. Gould stated emphatically his reticence to invoke any analogies between a cultural episode and biological evolution; as such comparisons had done vastly more harm than good (1991: 63). "Biological evolution

is a bad analogue for cultural change, because the two systems are so different for three major reasons that could hardly be more fundamental” (1991: 65). These are that cultural evolution is significantly faster; secondly, cultural evolution is direct and Lamarckian in form; and thirdly, the basic topologies of biological and cultural change are completely different.

As an evolutionary biologist, Gould felt no hesitation in prescribing cultural evolution as Lamarckian in character, and had also oft expounded on Lamarck’s contribution to biology as a respected systematist (1980(a): 171, 1983: 378, 1985: 36). For example, Gould credits that Lamarck was correct in speculating that small inconspicuous oceanic species should be immune from extinction (1993: 55), and Lamarck also made a significant contribution in recognising that a change in behaviour must precede alteration of form (1985: 36). It is not of concern in this context as to the quality or standing of Lamarck’s contribution to biological theories, but Gould’s advocacy that cultural evolution is direct and Lamarckian in form deserves further examination and elaboration.

### **What are “Lamarckian” evolutionary mechanisms?**

Jean-Baptiste Lamarck’s contributions were developed in the first two decades of the nineteenth century; his last major exposition was in 1815. Fundamental to his writings was his belief that only by studying nature would it be possible to learn the method the Creator used to bring living things into existence. There was no mechanism in these theories for the origins of species, as he granted that nothing came into existence except by divine will, by whatever method the Creator wished (Burkhardt, 1977: 184). This fundamental tenet of his philosophy contributed to some of the loss of popularity of his theories in the latter part of the nineteenth century, as debates were at times polarized between Church and Science.

His theories advocated two factors in the process of organic change:

- the natural progress of organic development; and
- The modification of such progress by constraining circumstances (Burkhardt, 1977: 145).

This separation into two processes was common to a number of 18<sup>th</sup> century theorists. It is also of note that the inheritance of acquired characteristics did not originate with



Jean-Baptiste Lamarck, and in his day he initially did not advocate it. However, as his theories developed it became a fundamental tenet of “Lamarckian” mechanisms of organic change. Thus the second of the two factors listed above was later represented as the process whereby for what was habit for one generation became instinct for later generations, *i.e. the inheritance of acquired characters*. The most common examples cited were the absence of teeth in the whale and anteater, the rudimentary eyes of a mole, and the absence of legs on a snake. Equally, the frequent use of an organ strengthens and augments its capacities e.g. long necks or long tongues of certain animals, and the hind limbs of a kangaroo. However, he did not attribute this to consciously purposive responses by organisms. With respect to biological evolution, Hull noted:

“present-day readers are likely to view a belief in Lamarckian modes of inheritance as not only mistaken but also unscientific. Mistaken, though justified, it surely was. Unscientific it was not” (Hull 1989: 217).

Lamarckism came to be understood as a theory of directed evolution (variation originates preferentially in adaptive directions). Eventually it was from much application and debate following Darwin’s theories on the origins of species which undermined the purposive, deterministic and progressive attributes of evolution concomitant with Lamarckism. This did not happen overnight. Indeed, Charles Darwin had paid considerable attention to the breadth of Lamarck’s scholarship in the formulation of his ideas, and his theories did not exclude some of Lamarck’s ideas (Hull, 1989: 60). Darwinism had gone through many transformations, and it was only by Weismann’s much later influence that Lamarckism was expelled from Darwinism, and the understanding and application of the principles of natural selection dominated the biological sciences (Hull 1989: 235).

From scholarship of philosophical biologists, there has been much further discussion concerning: the incorrect attribution of the theories described as “Darwinism” to Darwin (Hull, 1989: 236, 268, 295) and “Lamarckism” to Lamarck (Gould, 1980(b): 65). These will not be further addressed, but it is an issue which has been raised in part of the critique of Nelson and Winter’s advocacy of Lamarckism: that their representation of it was not what Lamarck originally theorized (Vromen, 195: 115). That debate fairly rests in the realm of philosophers of biology. It is more constructive to go with the common understanding of Lamarckism as described, and to further

review its pertinence to the mechanisms of and drivers to change in economics. The common understanding of Lamarckism is summarised by two descriptors: that

- variation originates preferentially in adaptive directions; and
- what is habit for one generation becomes instinct for later generations, i.e. the inheritance of acquired characters.

The preference for Darwinism over Lamarckism in economic theories is reflected more generally in the preferences of social scientists of many and various persuasions.

That Lamarck's status as a reputable icon has been lost is not surprising. Lamarck's ideas were so thoroughly caricatured, and associated with both the belief in an omnipotent Creator and fraudulent scientific experiment in the nineteenth century, that his ideas are unlikely to ever enjoy resurgence in biology. Gould was aware of the disparaged status of Lamarck as one of the evolutionary fathers. He noted that Lamarck suffers from "an imposed reputation as a loser not to be taken seriously for any of his ideas" (1985: 36). In spite of this he continued to advocate the adoption of Lamarckism as providing the correct mechanism for cultural, thus economic, evolution. He uses the term in the manner in which it is commonly understood: that Lamarckism as a theory of directed evolution (variation originates preferentially in adaptive directions) and as such provides the appropriate modeling of mechanisms for evolution of human artefacts and institutions.

### **The Critique of Lamarckism in Economic Theory**

Darwinian evolution is epitomised in mottos such as natural selection, fitness, survival of the fittest, and adaptation. An example of the utilisation of Darwinism can be found in theories of the firm, as in Vromen's examination of "survival of the fittest" as a useful tautology, along with "agency costs are minimised", as the building blocks for creating a theory of organisation. (Vromen, 1995: 51). One assumption is that a prevailing type of organisation is common because it has proven its efficiency in "survival processes" in competitive markets (*ibid*: 56).

Such prevalent ideas have been subject to a critique by Nelson and Winter (1982). They argued that there are other evolutionary mechanisms and that their evolutionary theory is 'unabashedly Lamarckian'. Vromen provides further detailed synopsis of the Darwinian theory of natural selection, separating into the three mechanisms of

selection inheritance and mutation, and he makes a detailed critique of Nelson and Winter's advocacy of a Lamarckian theory. Vromen eventually argues that Nelson and Winter's claim to be unabashedly Lamarckian would be better represented as a dualism in evolutionary theory, seeing both natural selection and adaptive learning as two mechanisms both operating in economic change (1995: 27, 205).

But in discussing the impact of Darwin's theory, Vromen saw some overlap in the two approaches: "many economists have been inspired by Darwinian (and Lamarckian) evolutionary theory" (Vromen, 1995: 5). Furthermore, Vromen examined Gould's representation of biological versus cultural evolution and Gould's arguments that cultural evolution operates in the 'Lamarckian' mode. Vromen then opened up Dawkin's "*Selfish Gene*" arguments and its relationship to evolutionary game theory (1995: 156). His concern with the units of selection is important, because evolutionary economics can be approached from the perspective of evolutionary holism or evolutionary atomism; the correct identification of the implicit level at which selection is assumed to operate is important in evolutionary debate (Watkins, 1998). However, Vromen did not further expand on the significance of Gould's description of human evolution being cultural, not biological, in nature. This example of Vromen's advocacy of Darwinian principles, and his critique of Lamarckian theory, may be typical of the continuing loyalty to Darwin by economic theorists. Darwin has been lifted to a rarefied level in iconography, whereas Lamarck languishes in oblivion.

As already described, Veblen and Stamp were not concerned with Lamarckian or Darwinian processes; "Darwinism" equated with a "scientific" method based on extensive observation of data and an appreciation of the merits of a qualitative approach. It was an objective of this paper to draw attention to the distinction between these two *modus operandi*, and that the casual invocation of Darwinism rampant in research addressing issues in evolutionary economics and accounting research might be lessened.

## **Conclusion**

Tinker argued that the legacy of Marxism is not a definitive analysis of a particular period of capitalist development, but "a methodology of immense versatility" (1999, p. 663). The same appears in this description of the character of Darwinism.

“Darwin’s evolutionary theory is an example of an inner logic that has wide cultural influence” (Birkin et al 1997), but the significance of its invocation has changed radically. At the start of last century Darwinism was the hallmark of a scientific method. There was no consensus that human artefacts and institutions should show adaptive behaviour in the manner of the earthworm or the orchid. By the end of the last century Darwinism is the rubric of cultural or social evolutionary processes far removed from the manner in which Darwinism is applied in biological studies. Based on differential survival of the most fit, it is observed that those cultures, human artifacts or social processes which survive show essential characteristics of fitness. The behavior of the most successful is seen as being opportunistically adaptive during environmental change.

The founding theorists of evolutionary economics did not consider Lamarckian versus Darwinian processes, nor did they endorse biological analogies for market mechanisms. Veblen and Stamp had advocated the evolutionary approach, in so far as “evolutionary” was intended to imply the scientific “matter-of-fact” approach. Similarly, Marshall had advocated dynamic analysis based on biological conceptions (Vromen, 1995: 2).

In the current surge of activity in accounting, management and economics research examining processes by which institutions evolve, it will be necessary to develop theories on the basis that institutions are human artefacts, subject to evolutionary processes characteristic of cultural evolution. These evolutionary processes and mechanisms are Lamarckian, not Darwinian, in nature. Lamarckian mechanisms incorporate the capacity of the institution, the firm, or the market to not only grow and expand incorporating characteristics acquired since its establishment, but also that the evolutionary changes can accumulate and accelerate in a deterministic, progressive and purposive direction. It is a model of evolutionary change closer to our hopes and aspirations.

Charles Darwin himself drew optimism from the achievements of industry last century, but his theories of the mechanisms of biological evolution allowed no such optimism of purpose, progress or self-determination in organic evolution. But Lamarckism allows hope for the survival of the human species, of each culture or ethnicity, and the survival of our knowledge and industry. As noted by Gould in his 1996 epilogue on human culture, the “uniquely and distinctively Lamarckian style of

human cultural inheritance gives our technological history a directional and cumulative character that no natural Darwinian evolution can possess” (1996; 222).

Accounting is a cultural, rather than a biological, discipline in nature. Accounting events and institutions are human artefacts, and theories in accounting subject to assessment on the basis of being cultural, rather than biological, events, or processes. Our favored metaphors and analogies in accounting textbooks are like the QWERTY keyboard, they retain their popularity due to various preferences of previous generations of textbook writers, thus are inherited by each new generation of scholars. The consensus on the appropriateness of the application of Darwinism to accounting or economics is understood by each new generation of scholars, but Lamarckism deserves to be better recognized as providing the correct understanding of the evolutionary drivers to selective, purposive, adaptive, and deterministic evolution by our markets, institutions, or firms.

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