Was Adam Smith an evolutionary economist?: Smith's study of botany and Charles Darwin's theory of morality

Tetsuo Taka¹

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Abstract

This paper aims to extend and provide a new understanding of Adam Smith's thoughts by focusing on some revisions in the 4th edition of *The Theory of Moral Sentiments* (Smith 1774), “the nutritional value theory of corn” in the *Wealth of Nations*, and then comparing Smith's discourses on the formation of morality with C. Darwin's. Smith's understanding of human nature extended and deepened with the study of botany and other sciences at Kirkcaldy after spending 2 years in France as Duke Buccleugh's tutor. He began to understand human nature not only as a composite of self-love and benevolence, but also of instinctual and experiential knowledge. Thus, Smith's system transitioned to an evolutionary one, and he became an unconscious forerunner of the Darwinian theory of morality formation.

Keywords Sympathy · Morality · Evolution · Adam Smith · Charles Darwin

JEL Classification B12 · B15

1 Introduction

The standard and prevailing understanding of Smith's theory of sympathy can be summarized as follows. The spectator's sympathies to the imaginary change of situations must be examined in its proprieties of conduct, and repetitions of their approbations and disapprobations gradually lead to the formation of social norms or morality as the general rule of conduct. This seems essentially true, although too broad and abstract to distinguish the features of Smith's theory of sympathy into relief.

✉ Tetsuo Taka
taka.tetsuo.528@m.kyushu-u.ac.jp

¹ Kyushu University, Fukuoka, Fukuoka Prefecture, Japan

However, there seem to be two decisive clues, hitherto overlooked, to reconstruct the core arguments in *The Theory of Moral Sentiments* (hereafter TMS). First, why did Smith add a long subtitle “*or, An Essay towards an Analysis of the Principles by which Men naturally judge concerning the Conduct and Character, first of their Neighbours, and afterwards of themselves*” to the main title of *The Theory of Moral Sentiments* in the 4th edition? Second, why did he capitalize the word “nature” in nearly fifty instances in the 4th edition,¹ and what did it imply? Although Smith made no reference to these changes, they appear to be important emendations that we cannot dismiss altogether.

To answer these questions, it is pertinent to note that Smith was in London and made strenuous efforts to complete the manuscript of *An Inquiry into the nature and causes of the Wealth of Nations* (Smith 1976b, hereafter WN) in 1774. He wrote to Andreas Holt in October 1780: “I continued to live in Kirkcaldy for six years in great tranquillity, and almost in complete retirement. During this time amused myself principally with writing my Enquiry concerning the Wealth of Nations, in studying Botany (in which however I made no great progress) as well as some other sciences to which I had never given much attention before” (Smith 1977, 252. Hereafter Corr.).

Smith’s basis for capitalization of the word “nature” was due to his newly acquired knowledge, possibly from C. Linne’s *Systema naturae* 12th edition (1768–70), that animals possess innate instincts.² This new biological knowledge of instinct acquired in the periods, as we see later, was fully utilized in the changing of “nature” to “Nature.”

However, we have no textual evidence that his biological study directly helped in the formation of “the nutritional theory of value” in WN. Although *Lectures of Jurisprudence* (Smith 1978) does not include any theory pertaining to land rent, chapter 11 of WN titled “Of the Rent of Land,” where Smith emphasizes his nutritional theory of value, accounts for nearly 45% of Book I. This indirectly demonstrates the extent of Smith’s efforts toward studying agriculture, agricultural technologies, and the development of new strains of farm products after his return from France.³ D. Hume’s response to WN indicates his failure to grasp the uniqueness of Smith’s theory of rent: “Euge! Belle! Dear Mr Smith: I am much pleas’d with your performance,” Hume further continues, “I cannot think, that the rent of farms makes any part of the price of the product, but that the price is determined altogether by the quantity and the demand” (Corr. 150, 1 Apr. 1776, from Hume to Smith).

More interestingly, however, the proponent of the theory of evolution, C. Darwin, mentioned and highly praised Smith’s theory of sympathy in Part I of TMS in *The*

¹ These distinctions were kept even in Part 6 of the 6th edition (Smith 1976a [1790]).

² As to Smith’s study of biology, see Schabas (2003, 2005) and Taka (2012a). Index of Mizuta (2000) cites 27 books on natural history.

³ According to Mizuta (2000), 44 books on agriculture are included in Adam Smith Library. As to books on British agriculture, Dossie (1771), Foster (1664), Harte (1770), Miller (1768), Tull (1762), Young (1771) are cited.

Descent of Man ([1871] 1874). The close similarities in their discourses on the formation of morality is surprising, eliciting questions regarding the parallels between the two.

The idea that Smith might be an evolutionary economist without knowledge of Darwinian evolutionary science,⁴ therefore, seems significant and stimulating for both Smith scholars and evolutionary economists, so the argument consists of the following: first, examinations of adding the subtitle and capitalization of the word “nature” in the 4th edition of TMS; second, a brief examination of the nutritional theory of value in WN; third, comparison between Smith’s theory of morality and Darwin’s theory; and finally, concluding remarks.

2 Upper-case Nature and Lower-case nature

Smith did not provide a reason for his addition of the subtitle “An Essay towards an Analysis of the Principles by which Men naturally judge concerning the Conduct and Character, first of their Neighbours, and afterwards of themselves.” However, the reason may be inferred from its content as follows.

The strongest possibility, I suppose, is to guide readers to the easy and exact understanding of his system, especially the logical relation between Parts I, II, and III in TMS. He invites the reader’s attention to Parts I and II on the analysis of conduct and character of neighbors, and Part III relates to the analysis of oneself. In Part I, Smith analyzes the principles of judgment from motives of conduct, but in Part II, he analyzes the principles of judgment from the results of conduct. As the title of Part III “Of the foundation of our Judgements concerning our own Sentiments and conduct, and of the Sense of Duty” describes, the logical structure of the first three Parts of TMS elucidating “the general rule of morality” becomes complicated. Smith must have solely wanted the reader to focus on these facts.

This is a matter of conjecture. Past understanding among Smith scholars of the subtitle’s importance may have been that, it is not an alteration or revision of the argument, but merely directs the reader’s attention. In my opinion, Smith may have been discontented with the insufficiency of the popular understanding of TMS, especially in Part II.

In contrast, the capitalization of the word “nature” in about fifty instances in the 4th edition will be discussed in detail. Editors of The Glasgow Edition of TMS mentioned the change as “personification or near-personification” without any further interpretation (Rahael and Macfie 1976, 44). It seems, however, that the capitalized form of the word “nature” is suggestive of a Goddess as Mother Nature or birth parent.

⁴ Evensky notices the methodological similarities between Smith’s theory of sympathy and Darwin’s evolutionary understanding of the human species. However, the present author cannot fully agree with his assertion that “Darwinian biological natural selection is about divergence, Smith’s social natural selection is about convergence.” (Evensky 2005, 9–12).

Thus self-preservation, and the propagation of the species are the great ends which Nature seems to have proposed in the formation of all animals. Mankind are endowed with a desire of those ends, and an aversion to the contrary; with a love of life, and a dread of dissolution; with a desire of the continuance and perpetuity of the species, and with an aversion to the thoughts of its entire extinction. But though we are in this manner endowed with a very strong desire of those ends, it has not been intrusted to the slow and uncertain determinations of our reason, to find out the proper means of bringing them about. Nature has directed us to the greater part of these by original and immediate instincts. Hunger, thirst, the passion which unites the two sexes, the love of pleasure, and the dread of pain, prompt us to apply those means for their own sakes, and without any consideration of their tendency to those beneficent ends which the great Director of nature intended to produce by them. (TMS. II.i.5.10).

On the other hand, the lower-cased “nature” came to signify the “nature as social circumstances for human being” or “society itself.”

In order to produce this concord, as nature teaches the spectators to assume the circumstances of the person principally concerned, so she teaches this last in some measure to assume those of the spectators. As they are continually placing themselves in his situation, and thence conceiving emotions similar to what he feels; so he is as constantly placing himself in theirs, and thence conceiving some degree of that coolness about his own fortune, with which he is sensible that they will view it. (TMS.I.i.4.8)

In this case, the lower-cased “nature” distinctly means a society in which humans are forced to live and adapt themselves to the surrounding environment. However, the capitalized “nature” requires further detailed explanation.

The posthumous manuscript “Of the External Senses” (Smith 1980 [1795], hereafter ES) has been assessed as “a very early piece, written before Smith had read Hume.” Although this may be justifiable up to its first half, the second half is not. Shinohara (1980, 100) points out that Smith’s comment on Franklin must be later than 1769, Brown (1992, 335) indicates that the manuscript must have been written after 1758 when Linnaeus’ *Systema Naturae* (10th ed.) was published, because in the latter part of the article, Smith used the new Order Gralae and the Class Mammalia coined by Linnaeus in the 10th edition of *Systema Naturae* (1758). Ross (2010) suggested that the article should be revised until a later period. However, the most important aspect is the content of Smith’s argument in the latter part of the article.⁵ He summarized the case history of a young gentleman who had been

⁵ Ross’s comment that it was 13th edition published in 1788, does not accurate one (Ross 2010). *Systema Naturae* in Adam Smith library (Tokyo University) is 12th edition published in 1767–70.

couched for cataract by Dr. Cheselden in 1728,⁶ that is, the long and painstaking process of recovering his sight.⁷

The young gentleman, although not so blind that he was unable to discern day from night, could not perceive the shapes of objects. After regaining his sight by operation, “he knew not the shape of any thing, nor any one thing from another, however different in shape or magnitude; but upon being told what things were, whose form he before knew from feeling, he would carefully observe, that he might know them again; but having too many objects to learn at once, he forgot many of them; and (as he said) at first learned to know, and again forgot a thousand things in a day” (ES, 63–4). Two months later, when he found pictures that applied perspective representation, he was surprised with the unevenness of their surfaces, and asked which was the lying sense, feeling, or seeing? A year following his recovery, “the young gentleman being carried upon Epsom-downs, and observing a large prospect, he was exceedingly delighted with it, and called it a new kind of seeing” (ES, 67–8).

This observation was far beyond simple empiricism and his contemporary debates about the relationship between the senses of seeing and touching. Smith, therefore stated that “though it may have been altogether by the slow paces of observation and experience that this young gentleman acquired the knowledge of the connection between visible and tangible objects; we cannot from thence with certainty infer, that young children have not some instinctive perception of the same kind” (ES, 69). Smith insists here that not only the long continuous experience but also some innate and instinctive faculty of perception are both indispensable to integrate images of seeing and touching. His conclusion is reflected in the following statement: “that, antecedent to all experience, the young of at least the greater part of animals possess some instinctive perception of this kind, seems abundantly evident” (ES, 70).⁸

All things considered, until the 4th edition, Smith definitely regarded the idea that “Nature” bestowed natural dispositions to animals, and “nature” bestowed discipline to animals for living in each community, conveyed through the capitalization of the word “nature” in appropriate instances. This attitude distinctively falls within evolutionary psychology rather than theology, and must be the fruitful result of his study of botany and other sciences at Kirkcaldy and London.

3 Nutritional value theory of labor

The studies of agricultural techniques and methods along with botanical study while working on WN appear to have greatly helped him, especially in “Of the Rent of Land” (Chapter 11 of Book I). Although it is a matter of common recognition that

⁶ Cheselden’s report published in *Philosophical Transactions of the Royal Society* on the case of recovery after long-term blindness is still mentioned by a modern neuroscientist (Fine 2003, 915).

⁷ Smith’s understanding was basically correct even from the modern view of neuroscience. See Kurson (2008), the exciting story of a person who lost his sight at age three and regained it after a stem cell transplant surgery, and was forced to endure long, dangerous, and harsh experiences to utilize and enjoy his sight.

⁸ As to the minute consideration of “the External Senses”, see Taka (2012a)

Smith's theory of value is composed of bestowed labor and sacrifice in labor, the fact that both theories are founded on the "nutritional value of corn" has been less recognized by Smith scholars until today.

Smith's argument that "the increase of stock and the improvement of land are two events which must go hand in hand, and of which the one can no where must out-run the other (WN.I.xi.1.3)" was nothing but his strong belief that the economic development process due to improvements must keep balance by itself. This argument, which greatly differs from the abstract theory of allocation of natural resources under free competition, is finally expanded into the evolutionary theory of the socio-historical system of development led by the increase in production for the market.

The nutritional value of corn was distinctively expressed in the counterargument to Mr. Anderson and arguments about the measure of value. Smith wrote in a letter to A. Holt (10/26, 1780).

In volume second page 101 of the first edition, I happened to say that the nature of things had stamped a real value upon Corn which no human institution can alter. The expression was certainly too strong, and had escaped me in the heat of Writing. I ought to have said that the nature of things had stamped upon corn a real value which could not be altered merely by altering its Money price. This was all that the argument required, and all that I really meant. (Corr., 251)

That "a real value which the nature of things had stamped upon corn," suggests that a quantity of nutrition per unit of corn can maintain a larger quantity of labor than the labor bestowed for its production anytime and anywhere. In addition to this, Smith further insisted from this nutritional point of view that no agricultural product was more advantageous than corn. As a result, the rent of the most fertile corn field regulates all other rents of land, because corn is the most favorable product for agriculture and industry.

Smith, however, recognized that potatoes were more nutritious than corn, even when measured by production per acre and quantity of bestowed labor. The growth of potato cultivation in the future should decrease the real value of food and increase the surplus, that is, the rent of land, after replacing stock and maintaining labor. This was the real reason why Smith called potato and maize (Indian corn) "the two most important improvements" which Europe had received from "the great extension of its commerce and navigation." Smith thus stated,

The circumstances of the poor through a great part of England cannot surely be so much distressed by any rise in the price of poultry, fish, wild-fowl, or venison, as they must be relieved by the fall in that of potatoes. (WN.I.xi.n.10)

Nevertheless, the substitution of potato for corn could not occur substantially in England, because the preservation of potatoes throughout the year was much more difficult than corn, which was good for 2 or 3 years. In other words, "the fear of not being able to sell them before they rot, discourages their cultivation,

and is perhaps, the chief obstacle to their ever becoming in any great country, like bread, the principal vegetable food of all the different ranks of the People (WN.I.b.42).”

Why do many products with low nutritional value proceed to be grown one after another in the process of development? The low nutrition products, that is, the products that would maintain a lower quantity of labor begin to get higher prices in the market, since “the inferiority of the quantity must be compensated by the superiority of the price (WN.I.xi.b.9).” If the production of corn increased, its price would fall in proportion to the immediate increase in its supply to the market. The surplus corn will not be consumed immediately by poor people who want to bring up more children, but the increase in the consumption of less nutritional goods, the luxury goods would come first, whenever the freedom of trade and the free exportation of corn are not restricted. Population growth is a matter of concern in the long term. Based on the nutritional value theory, Smith thus emphasized his idea of economic development; the increase of agricultural productivity enables the society to consume more luxury goods, that is, the expensive products in proportion to the “sustainable quantity of labor.” The same nutritional theory of value also underpinned Smith’s theory of measure of value; labor is the only accurate and universal measure of value, but from century to century, corn is a better measure of value than silver, which is an accurate measure of value only from year to year.⁹

4 Sympathy and the formation of morality

Smith’s theory of sympathy, or the theory of formation of morality in TMS may be summarized in the following six points.

1. Human nature is composite. Therefore, long as we are human beings, we must possess self-love to pursue individual interest as well as benevolence toward other members of the community, namely the heart that makes the happiness of other members irreplaceable.
2. For a person to live in the society, sympathy is the sole means of reading the minds of others indirectly, since individuals cannot directly read other minds. The spectator feels similar sentiments of agents based on imaginary changes in situations. When the spectator shares the similar “passion” with the agent, both of them will feel “fellow-feeling.” Humans rush to sympathy not only in a friend’s success, but also to comfort his friend’s sorrow or grief.
3. When the affections of spectators are in perfect agreement with those of the agents mainly concerned, the spectators necessarily appropriate the agents’ affections. We judge each affection as it is proportioned or disproportioned to the cause that excites it. While mankind is naturally sympathetic, the imaginary change of situation does not necessarily evoke “fellow-feeling” between agents and spectators. Spectators are always required to make efforts to fully understand their situations,

⁹ As to the detail of Smith’s labor theory of value, see Taka (2012b).

and agents are also required to “flatten the sharpness of its natural tone” to reduce them in harmony and concord with the emotions of spectators. What is necessary to maintain society is not the achievement of a perfect unison, but to such an extent that it can bring about “the harmony of society.”

4. The harmony of society may be established even among strangers. “Self-command,” even if it were make-believe, could be cultivated and demonstrated even in an assembly of strangers instead of one of acquaintances. Since the harmony of the society depends on the foundation of effort of spectators who care about the sentiments of the agent and the effort of the agent who tries to make the spectator approbate with original emotions, the impartial spectator will also substantially be able to play the same role as “self-command.” “The impartial spectator” carries out his function of keeping the harmony of society, because he himself presupposes two different efforts, that is, spectator’s efforts to enter into the agent’s sentiments and the agent’s efforts to be entered into and fused with spectator’s emotions.
5. When we see conduct not from the motives but from the effect, human conduct will be classified into two distinct types. One is “merit” which are qualities deserving reward, other is “demerit” which are qualities deserving punishment. The sentiment that immediately prompts us to reward is gratitude, while that which immediately prompts us to punish is resentment. The repeated approbations of effects fix firmly in human minds the sense of merit, and the repeated disapprobations of them bring forth a sense of demerit through daily life. The senses of merit and demerit, that is, the qualities deserving reward or punishment are the habitual affections which are fixed and prevalent in each community.
6. The principles by which we naturally either approve or disapprove of our own conduct are the same as those by which we exercise similar judgments concerning the conduct of other people. By placing ourselves in the situation of another person, we will be able to view ourselves through the eyes of others. When we see ourselves from the perspective of the impartial spectator, this will be done easily and completely. We try to avoid conduct that friendly neighbors dislike and try to reward the conduct toward which they express a sympathetic attitude. In this manner, we naturally set ordinary rules of conduct for ourselves. General rules of morality, therefore, are naturally formed through daily experiences during which some conduct is approved, while others are disapproved of in common lives. The influence of these general rules will grow and spread continuously, because these rules are “naturally laid down” by us so that they have authority over us. When passions are remarkably flamed up suddenly, the warnings before the action may be ignored, but after the passion is fulfilled, the sentiments cannot be disturbed by repentance and remorse, because agents begin to look at themselves with the spectator’s eyes. Thus, the sense of propriety underlying general rules naturally prevails throughout society.

Points 1, 2, 3, and 4 belong to Part I of TMS, which was praised by Darwin; point 5 belongs to Part II, and point 6 to Part III. Points 1–5 clearly fall under “the Analysis of the Principles by which Men naturally judge concerning the Conduct and Character, first of their Neighbours, and afterwards of themselves” and 6 falls under “the Analysis of themselves.”

Darwin discussed the progress of morals in *The Descent of Man* (1874)¹⁰ and noted that the fact that “of all the differences between man and the lower animals, the moral sense or conscience is by far the most important” (Darwin 1874, 97). By applying the theory of evolution to mankind, Darwin believed that great questions such as E. Kant’s saying “Duty! Whence thy original,” could be answered “from the side of natural history.”

This proposal, it might be safely said, seems to be a serious insistence that we cannot apprehend moral philosophy or ethics without adequate understanding of the evolutionary character of mental faculties in the process of natural selection. The philosophical treatise of human nature, therefore, must be extended from the field of natural philosophy to evolutionary and biological anthropology based on cultural and physical anthropology. Thus, Darwin defined the new concept of “social instinct,” which was absent in *The Origin of Species*. He said thus:

The development of the moral qualities is a more interesting problem. The foundation lies in the social instincts, including under this term the family ties. These instincts are highly complex, and in the case of the lower animals give special tendencies towards certain definite actions; but the more important elements are love, and the distinct emotion of sympathy. Animals endowed with the social instincts take pleasure in one another’s company, warn one another of danger, defend and aid one another in many ways. These instincts do not extend to all the individuals of the species, but only to those of the same community. As they are highly beneficial to the species, they have in all probability been acquired through natural selection (Darwin 1874, 610)

Therefore, Darwin declared that “any animal whatever, endowed with well-marked social instincts, the parental and filial affections being included, would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well, or nearly as well developed, as in man (Darwin 1874, 98).”

According to Darwin, the main grounds of his argument were four.

1. Social instincts lead an animal to take pleasure in the society of its fellows, to feel a certain amount of sympathy with them, and to perform various services for them. The services may be of a definite and evidently instinctive nature, or there may be only a wish and readiness, as with most of the higher social animals, to aid their fellows in certain general ways. However, these feelings and services are by no means extended to all individuals of the same species, only to those of the same association.
2. As soon as the mental faculties become highly developed, images of all past actions and motives would incessantly pass through the brain of each individual, and feelings of dissatisfaction, or even misery, which invariably results, as we

¹⁰ Although the first edition was published in 1871, it seems better to use the second edition which has not a few additions relating the formation of morality. As to Darwin’s theory of formation of morality, see Taka (2011).

shall hereafter see, from any unsatisfied instinct, would arise, as often as it was perceived that the enduring and always present social instinct had yielded to some other instinct, at the time stronger, but neither enduring in its nature, nor leaving behind it a very vivid impression. Many instinctive desires, such as hunger, are by their nature, of short duration, and after being satisfied, are not readily or vividly recalled.

3. After the power of language had been acquired, and the wishes of the community could be expressed, the common opinion that each member ought to act for the public good would naturally become paramount in the guide to action. However, it should be borne in mind that however great weight we may attribute to public opinion, our regard for the approbation and disapprobation of our fellows depends on sympathy, which, as we shall see, forms an essential part of the social instinct, and is indeed its foundation of social feelings as a powerful natural sentiment.
4. Habit in the individual would ultimately play an important part in guiding the conduct of each member; for the social instinct, together with sympathy, is, like any other instinct, greatly strengthened by habit, and thus is obedience to the wishes and judgment of the community (Darwin 1874, 98–99).

Smithian concepts, such as “imaginary change of situations” and “impartial spectator” do not appear in Darwin. Furthermore, the meaning of “conscience” is not the same as Smith’s, which is replaceable by “impartial spectator.” Nevertheless, the following distinctly shows the common traits between them.

At the moment of action, man will no doubt be apt to follow the stronger impulse; and though this may occasionally prompt him to the noblest deeds, it will more commonly lead him to gratify his own desires at the expense of other men. But after their gratification, when past and weaker impressions are judged by the ever-enduring social instinct, and by his deep regard for the good opinion of his fellows, retribution will surely come. He will then feel remorse, repentance, regret, or shame; this latter feeling, however, relates almost exclusively to the judgment of others. He will consequently resolve more or less firmly to act differently for the future; and this is conscience; for conscience looks backwards, and serves as a guide for the future (Darwin 1874, 114).

5 Smith as a forerunner of institutional evolutionist

Smith was a distinguished spectator of human behavior. The abrupt addition of the subtitle “An Essay towards an Analysis of the Principles by which Men naturally judge concerning the Conduct and Character, first of their Neighbours, and afterwards of themselves” into the 4th edition of TMS might reflect his intention to

suggest that this essay was the analysis of observed facts only. He was not trying to think about rights, but about the observed facts.¹¹ Smith studies have often been conducted to position his ideas in the broad historical field of moral philosophy and natural theology, so they have overlooked the meaning of this addition and the capitalization of “nature.” We must remember that both “biology” and “psychology” are terms that began to be used at the end of the eighteenth century.

In addition, Smith’s methodology appears to have been misunderstood. Although the highest esteem of I. Newton expressed in the “The History of Astronomy”¹² has brought forth the popular apprehension that Smith was one of the representative followers of “Newtonian methods,” nevertheless the main theme of his essay was not only the appreciation of the law of movement but also the importance of observations and theorization based on observed facts in philosophical inquiries. This attitude can be observed from the low esteem of Descartes, as well as the low evaluation of Buffon,¹³ who had been ardent followers of Newton.

Smith severely criticized the easy connection of the efficient cause with the final cause whenever it was concerned with human science. In accounting for bodily functions such as blood circulation or food digestion, we never fail to distinguish the efficient from the final cause, but “in accounting for those of the mind we are very apt to confound these two things with one another.” Smith stated that we were very apt to impute the cause of sentiments and actions to “enlightened reason,” that is, “the wisdom of God” to their efficient cause.

Upon a superficial view, this cause seems sufficient to produce the effects which are ascribed to it; and the system of human nature seems to be more simple and agreeable when all its different operations are, in this manner, deduced from a single principle (TMS.II.ii.3.5).

Asimilar attack on deductions from simple principles is also expressed against the utilitarian system of Epicurus.¹⁴ In “Of the external senses,” Smith insisted distinctly that the proper mission of science is not to discover simple principles that explain everything, but to discover through observations the “intermediate cause” that exists infinitely between the efficient and ultimate cause, and to add up new information as a common stock of the society. Young Smith expressed his belief in “A Letter to the Authors of the Edinburgh Review” that an advance of science was a process of “adding up something to the public stock of observations” (Essays, 249).

The WN was characterized not only by the large number and variety of observations, but also by the fact that inquiries proceeded on vast volumes of legislative history and statistical data. Although it was well known that Smith did not believe in

¹¹ Smith emphasized in Part II, “the present inquiry is not concerning a matter of right, if I may say so, but concerning a matter of fact (TMS.II.i.5–10)”.

¹² The full title is “The Principles which Lead and Direct Philosophical Enquiries; Illustrated by the History of Astronomy.”

¹³ See, “A letter to the Authors of the Edinburgh Review” (Essays, 249).

¹⁴ Smith criticized thus. “By running up all the different virtues too to his one species of propriety, Epicurus indulged a propensity, which is natural to all men, but which philosophers in particular are apt to cultivate with a peculiar fondness, as the great means of displaying their ingenuity, the propensity to account for all appearances from as few principles as possible” (TMS.VII.ii.2.14).

“Political Arithmetic” and was cautious of not falling into the trap of overly abstract thinking, he was an ardent collector of historical data as demonstrated in the long “Digression concerning the Variations in the Value of Silver during the Course of the Four last Centuries” in Book I of WN. Based on Smith’s method, it was natural to pursue the process of historical development as much as possible, and to elucidate it further.

In addition to this, as Smith insisted in Part V of TMS, it must be remembered that morals, general rules of conduct, and law continued to change, since they were not historically fixed customs and institutions. In Book V of WN, therefore, Smith insists that the state, “the largest society,” must try to establish new public institutions not only for the education of the young but also enhancing and enriching popular enjoyments. Smith never believed in laissez-faire principles, and Darwin did the same.

There should be open competition for all men; and the most able should not be prevented by laws or customs from succeeding best and rearing the largest number of offspring. Important as the struggle for existence has been and even still is, yet as far as the highest part of man’s nature is concerned there are other agencies more important. For the moral quantities are advanced, either directly or indirectly, much more through the effects of habit, the reasoning powers, instruction, religion, &c., than through natural selection; though to this latter agency may be safely attributed the social instincts, which afforded the basis for the development of the moral sense (Darwin 1874, 618).

For these reasons, we can conclude that Adam Smith was an economic thinker of “institutional evolution” which was not inconsistent with Darwin’s theory of evolution.¹⁵

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References

- Brown KL (1992) Dating Adam Smith’s essay of the external senses. *J History Ideas* 53(2):333
- Darwin C (1874) [1871] *The Descent of Man and Selection in Relation to Sex* Second ed., Revised and Augmented. John Murray, London
- Dossie R (1771) [1768] *Memoirs of agriculture, and other economical arts*. Printed for J. Nourse, London

¹⁵ For reasons of space, present author cannot but be satisfied just by pointing it out that both Smith and Darwin are critical to utilitarianism. As to Smith, see Taka (2018) and as to Darwin, see Taka (2011), 16–18.

- Evensky J (2005) Adam Smith's moral philosophy: a historical and contemporary perspective on markets, law, ethics, and culture. Cambridge University Press, New York
- Fine I (2003) Long-term deprivation affects visual perception and cortex. *Nat Neurosci* 6(9):915–916
- Forster J (1664) *Englands Happiness Increased, or, A Sure and Easie Remedy against all Succeeding Dear Years; By A Plantation of the Roots called Potatoes, whereof (with the Addition of Wheat Flower) excellent, good and wholesome Bread may be made, every Year, eight or nine Months together, for half the Charge as formerly.* Printed for A. Seile. London
- Harte W (1770) Essay I. A General introduction, shewing, that agriculture is the basis and support of all flourishing communities. Essay II. An account of some experiments tending to improve the culture of lucerne by transplantation: being the first experiments of the kind hitherto made and published in England. 2 edn. Printed for W. Frederick. London
- Kurson R (2008) *Crashing through: the extraordinary true story of the man who dared to see.* Random House Trade Paperback, New York
- Miller P (1768) *The gardeners dictionary containing the best and newest methods of cultivating and improving the kitchen, fruit, flower garden, and nursery.* John and Francis Rivington, London
- Mizuta H (2000) Adam Smith's library: a catalogue. Clarendon Press, Oxford
- Raphael DD, Macfie AL (1976) Introduction to the Clarendon Press's *The Theory of Moral Sentiments*. Oxford University Press
- Ross IS (2010) [1995] *The life of Adam Smith.* Clarendon Press, Oxford
- Schabas M (2003) Smith's debts to nature. In: Schabas M, de Marchi N (eds) *Oeconomies in the age of Newton.* Duke University Press, Durham, pp 262–281
- Schabas M (2005) *The Natural origins of economics.* The University of Chicago Press, Chicago, London
- Shinohara H (1980) Adam Smith to Joushikitetsugaku (Adam Smith and Common Sense Philosophy). Yuhikaku, Tokyo
- Smith A (1774) *The Theory of Moral Sentiments, or, An Essay towards an Analysis of the Principles by which Men naturally judge concerning the Conduct and Character, first of their Neighbours, and afterwards of themselves. To which is added, A Dissertation on the Origin of Languages.* 4th edition. London: Printed for W. Strahan, J. & F. Rivington, W. Johnston, T. Longman; and T. Cadell in the Strand; and W. Greech at Edinburgh.
- Smith A (1976a) [1790] *The Theory of Moral Sentiments*, 6th ed. Clarendon Press, Oxford
- Smith A (1976b) *An Inquiry into the nature and causes of the wealth of nations.* Clarendon Press, Oxford, p 1776
- Smith A (1977) The correspondence of Adam Smith. In: Mossner EC, Ross IS (eds) Clarendon Press, Oxford
- Smith A (1978) *Lectures on Jurisprudence.* In: Meek RL, Raphael DD, Stein PG (eds) Clarendon Press, Oxford
- Smith A (1980) [1795] Of the external senses. In: Wightman WPD, Bryce JC (eds) *Essays on Philosophical subjects.* Clarendon Press, Oxford
- Taka T (2011) The rise of New Liberalism and Darwin's Theory of Moral Evolution in the Late 19th Century: H. Spencer and D. C. Ritchie reconsidered. In: History of Economic Thought Research Group (Eds) *A Study of British Thoughts on Improvement of Economic Society: New Liberalism to New Labour.* Printed by Toukashobou for the Research Group
- Taka T (2012a) Instinct as a foundational concept in Adam Smith's social theory. *Hist Econ Thought* 53(2):1–20
- Taka T (2012b) Subjectivity, objectivity and biological interpretation in Smith's view on the real values of labour, money and corn. In: Ikeda Y, Yagi K (eds) *Subjectivism and objectivism in the history of economic thought.* Routledge, Oxon, pp 11–28
- Taka T (2018) On the meaning of the layered and evolutionary structure of utility in Adam Smith's *The Theory of Moral Sentiments*. *Economics (Kyushu Sangyo University)* 22(3/4):25–43
- Tull J (1762) *Horse-hoeing husbandry: or, an essay on the principles of vegetation and tillage.* Printed for A. Millar, London
- Young A (1771) *The farmer's letters to the people of England: containing the sentiments of a practical husbandman, on various subjects of great importance.* Printed for W. Strahan, London