Journal of Behavioral Economics for Policy, Vol. 5, Special Issue 3: Roots and Branches, 7-17, 2021

Our roots run deep, our branches are plentiful

Roger Frantz[1]*

Abstract
In this paper I discuss 15 writers, whose writings included topics or concepts which are now part of (new) behavioral economics (NBE). These writers may not have taken up one page or what became part of (N)BE, or it took up several pages. They often did not use the terms used today by NBE. But, the substance is similar, even identical. The writers wrote between the mid-18th century (Adam Smith, to the 20th century (Irving Fisher, and Frank Knight, to mention only two).

JEL Classification: B1; B2; B3

Keywords
(new) behavioral economics — heuristics and biases — history of economic thought

[1] *Professor Emeritus, San Diego State University*
***Corresponding author**: rfrantz@sdsu.edu

Adam Smith (1723-1790)

Smith believed that much of our mental life is unconscious processes, with intuition being perhaps the most important one. Smith drew the distinction between intuition and reflective processes. Intuition manifests itself through sympathy and the impartial spectator. Sympathy is imagining what it is like to be in another's "shoes," to imagine what their life is like. The impartial spectator (IS) is the objective part of ourself, It is our conscience, the inhabitant in the breast, the great judge and arbiter of our conduct, a moral sense. Both are experienced, not logically, but intuitively.

Dual processing: intuition and analysis. When you use the IS you "divide yourself' into two persons, the examiner and the examined. Without the IS we are left to "the selfish and original passions of human nature" (Smith, 1759/1969, p. 233). The impartial spectator and sympathy are designed so that we will consider the welfare of others as well as our own welfare. To ignore others is an act of impropriety: it is rude, indecent, unseemly, and in bad taste. Without the (IS) we will over exaggerate our pain and rejoice excessively about our joy. Doing so is the "fatal weakness of mankind, is the source of half the disorders of human life" (ibid., p. 263).

On the first page of text of *The Theory of Moral Sentiments* Smith says that we are self-interested and altruistic: "How selfish so ever a man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it" (ibid., p. 45). He continues, "... to feel much for others, and little for ourselves ... constitutes the perfection of human nature..." (ibid., pp. 71-72).

Cognitive (optical) illusions. Kahneman and Tversky developed their ideas about cognitive illusions or errors from experiments in optical illusions. (FN. Book about K&T) Smith discussed optical illusions in *The Theory of Moral Sentiments*. He says that only by using the impartial spectator "can we ever see what relates to ourselves in its proper shape and dimensions (ibid., p. 232). For example, "... to the eye of the body, objects appear great or small... " (op cit). So the body's eye makes it appear that large mountains in the distant can fit inside a small glass window that is one foot away" (op cit). You can fix this by "transporting" yourself via your imagination. This is currently referred to as "spatial intelligence" (Gardner, 1983).

Loss aversion. How do we process pleasure and pain? Smith implies what we now refer to as loss aversion. "Pain . . . is, in almost all cases, a more pungent sensation than the opposite and correspondent pleasure. The one almost always depresses us much more below the ordinary, or what may be called the natural state of our happiness, than the other ever raises us above it" (Smith, 1759/1969, p. 218). Losing what we have is a greater loss than being disappointed at what we do not get. Modern behavioral economics refers to this as *valuing out-of-pocket costs more than opportunity costs*.

Optimism bias and overconfidence effect. Smith uses the term "overweening conceit" to describe people's beliefs about their own abilities. We are overconfident, and, in addition, we have an "absurd presumption in their own good fortune." We believe that good (bad) things are more (less) likely to happen to us. Behavioral economists refer to this as the optimism bias. In The Wealth of Nations (1776/1976), Smith says that "The chance of gain is by every man more or less over-valued, and the chance of loss is by most men under-valued" (Smith, 1776/1976, p.120). The fact that men are overconfident about winning at risky ventures is obvious from the success of lotteries.

Fairness. The IS will not abide by unfairness or an excessively unequal distribution of income, especially when the moral conduct of both rich and poor are considered the cause of wealth and poverty. He says that the "disposition to admire, and almost to worship, the rich and the powerful, and to despise, or, at least, to neglect, persons of poor and mean condition ... is ... the great and most universal cause of the corruption of our moral sentiments" (Smith, 1759/1969, p. 126).

> Life is an error-making and an error-correcting process.
>
> JONAS SALK

John Rae (1796-1872)

Rae is the author of *New Principles on the Subject of Political Economy* (1834), reprinted in 1905 under the title, The Sociological Theory of Capital. He is also the author of The Life of Adam Smith, published posthumously in 1895.His book, New Principles, is not a book about (new) behavioral economics (NBE). The book covers topics such as the nation's wealth, the laws governing changes in wealth; invention; impatience, a.k.a., the effective desire of accumulation; the division of labor; Adam Smith Wealth of Nations as a branch of the philosophy of induction, and luxury. It is part of his ideas about luxury that Rae discusses some ideas which would become part of (N)BE.

Sympathy. Sympathy, imagining what it is like to be another. It is probably not surprising that Rae would write about sympathy, even if he never used that word. Rae says "With the greater part of rich people, the chief enjoyment of riches consists in the parade of riches... enjoyment has no relation to their value... (Rae, 1834, p. 270).

Snob and veblen effects of vanity. Sympathy is the experience of the person wanting to be the wealthy person. The wealthy person shows off their wealth by engaging in either snob behavior or Veblenesque behavior. Rae's 1834 book concerned itself with the wealth and prosperity of society. On the one hand Rae listed intellectual powers, and benevolent and social affections which increase wealth and prosperity. On the other hand selfishness and the adulteration of the intellectual and moral aspects of our human nature reduce wealth. Rae devotes a chapter to "Of Luxury," a chapter which discusses at length the effects of vanity on wealth and prosperity.

Vanity he defines as the "mere desire of superiority over others, without any reference to the merit of that superiority" (ibid., p. 265). It is "purely selfish," with aim of having of what others cannot have, and being able to show it off to others. Vanity must be centered on things which rare and costly, and able to display their vanity via conspicuous consumption. This is the Veblen effect written about by Leibenstein (1950). On the other hand, when the "vulgar" classes consume something it reduces the pleasure of the owner because of the snob effect (Leibentein, 1950). Blake Alcott (2004) says as much: "It is a short step to Harvey Leibenstein's "snob" and "Veblen" effects wherein demand varies 'non-additively' with others' demand and with price..." (Alcott, 2004, p. 770).

Jeremy Bentham (1748 – 1832)

His books include An Analysis of the Influence of Natural Religion on the Temporal Happiness of Mankind (1822), A Fragment on Government (1776), and Introduction to the Principles of Morals and Legislation (IPML) (1789). In 1781 he coined the term utilitarian. He became known as the "voice" of political radicalism.

Humans are not perfectly rational. Rationality in economics means consistency, but humans are anything but consistent. Bentham adds that people suffer from the "insanity of mind," "weakness of mind," and ignorance. One of his "axioms of mental pathology" is similar to a basic tenet of Prospect Theory, that a equal money value of gains and losses hurts the loser more than it benefits the winner. Loss aversion is a reason he supported the protection of property. He says that a loss of $1 requires a gain of $2 to compensate the individual for her loss. People are subject to the status quo bias. The "status quo" entails all of our expectations, and people prefer the current state of affairs because losses are more painful than gains of equal values.

Endowment effect. People value what they have more than when they do not possess it because losing what you have means expectations which are not met, whereas not having gained something is simply that. According to Bentham expectations are reference dependent, meaning that attitudes and preferences depend on both my past and my current endowments.

Cognitive ease and herding. Cognitive effort causes pain, hence humans have a preference for cognitive ease. This leads to decision making by habit, or deciding 'without deciding,' and engaging in "imitative" behavior or herding. Bentham says that public opinion which is strong enough to create new laws can't be changed by a single individual.

William Stanley Jevons (1835-1882)

Jevons is one of the co-discoverers of marginal analysis presented in his book, *The Theory of Political Economy* in 1871. He also developed a weather-based theory of the business cycle: the sun-spot theory. In 1865 he wrote the The Coal Question. In terms of behavioral economics Jevons discussed hyperbolic discounting, while at the same time ignoring an essential part of HUMAN nature in his economics., perhaps our most important part, our "higher" self or higher wants, leaving us as an animal, as if searching for food.

Hyperbolic discounting. Jevons discusses (hyperbolic) discounting in Chapter 2 of The Theory of Political Economy; "Theory of Pleasure and Pain," in the section titled "Anticipated Feeling." Here he says that the force of pleasure and pain depends in part on when it occurs it time, what Jevons called propinquity or remoteness. Much of our experience is not what actually happens moment to moment, what Kahneman calls "instant utility," but our anticipation of the future. Actual utility at any moment is limited compared to the anticipation of future utility. This is where Jevons discusses hyperbolic discounting. He writes that:

> The intensity of present anticipated feeling must, to use a mathematical expression, be some function of the future actual feeling and of the intervening time, and it must increase as we approach the moment of realization. The change, again, must be less rapid the farther we are from the moment, and more rapid as we come nearer to it. An event which is to happen a year hence affects us on the average about as much one day as another; but an event of importance, which is to take place three days hence, will probably affect us on each of the intervening days more acutely than the last. (Jevons, 1871/1970, p. 98)

Lower and higher needs. Jevons limited economics to only part of what we are as human beings. He limited economics to our "lower" needs, our animal instincts. He left out our "higher" needs, those of the mind and spirit. In denying our higher "self" he denies our entire human nature and is, therefore, not studying HUMANS. Hence he is NOT a behavioral economics. To make matters worse, he denied our higher "self" because that could have led to an upward sloping to the right demand curve and a situation where it is possible that Qd will never equal Qs. For Jevons, for whom equilibrium was very important, this is not a good situation. Solution? Limit economics to lower-level, ordinary, wants, where demand curves slope downward to the right and will intersect the supply curve.

George Tucker (1775-1861)

Tucker was an American economist, attorney, politician, and historian. He wrote *A Voyage to the Moon* (1827); *The Theory of Money and Banks Investigated* (1839); *Principles of Rent, Wages, and Profits* (1837), and *Essays, Moral and Metaphysical* (1860). His essays included "On Sympathy." He begins "On Sympathy" saying that "We are so constituted by nature as to share in the pains and pleasures of other human beings" (Tucker, 1860, p. 90). Tucker says that it is not always the case that we share the pleasures and pains of others. Sometimes the more is the good fortune of others the less pleasure we feel for their good fortune. Why is this?

Relative 'income.' When someone else obtains what we have longed for, but which we failed to obtain, then "a selfish regret thereupon arises, which counteracts, and sometimes extinguishes, our natural sympathy" (op cit). People react to changes from their reference point – their relative 'income.' The decline in their relative income turns happiness into jealousy and negative feelings towards the other person. But there is hope that we can escape from this negative reaction. "Every man who has a heart capable of friendship, or susceptible of benevolence, must have met with occasions of misfortune to others which can given him lively and unmixed pain. . . " (ibid., p. 94).

Overconfidence bias. Tucker says that the human mind finds it instinctive to dwell more on pleasing incidents than unpleasant ones. And we often delude ourselves to believe that the probability of pleasant outcomes is higher than it actually is. Tucker says that overconfidence explains the ready sale of lottery tickets, the frequent occurrence of bankruptcy, books printed which are never read, the "blind perseverance" of a successful gambler who eventually loses his money.

David Green (1864-1925)

Green is the forgotten member of the American Psychological School. He is the author of the 1894 article, Pain Cost and Opportunity Cost. Green says that a component of costs is pain, ex., tired muscles. However, pain costs are not proportional to wages. This is due more the scarcity of special skills. Green refers to opportunity costs as the "sacrifice of opportunity" (Green 1894, p. 222). Because good opportunities are limited we need to consider the opportunity cost of opportunities.

Behavioral economics have written more about pain in spending. Behavioral economics has shown that people often ignore opportunity-cost, but are susceptible to sunk-costs. Papers on pain costs include Prelec and Lowenstein (1998); Rick (2018); Rick, Cryder, and Lowenstein (2008), and Frederick, et. al (2009).

T. N. Carver (1865-1961)

T. N. (Thomas Nixon) Carver was President of the AEA in 1916. His books included The Place of Abstinence in the Theory of Interest (1893), Sociology and Social Progress (1905), and Essays in Social Justice (1915). He wrote about the Behavioralistic Man in a 1918 article. The article contrasts and compares behavioristic-man with economic-man. He begins with this statement,

> A NEW kind of an economic man has been, or is in process of being, constructed by what is known as the behavioristic school of economists. He is the result of an over-emphasis upon the non-pecuniary and the neglect or under-emphasis upon the pecuniary motives, as the old economic man was the result of the opposite tendencies. (Carver, 1918, p. 195)

We have two conflicting approaches to human behavior; one which apparently ignores impulses (economics), and the other which ignores self-interest (behavioristic psychology). Carver says that If economic-man was too calculating, behavioristic-man is "too impulsive, unreasoning, eternal feminine sort of man" (op cit; "eternal feminine" is Carver's words, not mine!). Carver believes that "we need a balancing up of motives before we arrive at any true concept of human reactions in a modern economic society" (op cit).

Carver also says that behavioralists put too much emphasis on what human nature is actually like, and too little emphasis on what makes a "good" man, a man who adds potency to society. In short, "what kind of men fit best into the cosmos" (ibid., pp. 196-97). The term "fit best," "work well," and "under the conditions of the universe" may be consistent with the theory of ecological rationality. Ecological rationality means that an individual, market or institution is adapted to the structure of the environment. If it fits and/or works well given the conditions of the environment or universe, then it is ecologically rational.

What kind of person is better than another type? Carver concludes that there is no a-priori reason for believing that economic-man is preferred to behavioristic -man, or vice-versa. "There is no a priori reason for concluding that one kind of man is better than another, certainly not for concluding that a non-calculating, impulsive man, whose economic wholly instinctive, is better than one who fully compares costs and advantages. The latter is certainly more " human," if by that word we imply the possession of qualities which distinguish us from, rather than ally us with, the loveable brutes" (ibid., p. 199).

Herbert J. Davenport (1861-1931)

Davenport, an American economist with a Ph.D. from the University of Chicago in 1898, was an American-Austrian economist. His books include *Economics of Enterprise* (1919). In 1894 he published "The Formula of Sacrifice" in the *Journal of Political Economy*. My comments here are limited to these two publications.

Davenport's book, *Economics of Enterprise*, is not a book about (N)BE. It is about markets, prices, supply and demand, costs of production, rent, interest, money and banking, the distribution of income, and market structures.

Maximize utility or minimize pain. In his 1894 article Davenport says that "Economics is Applied Psychology, and we shall make no progress in our investigations by shutting our eyes to this fact" (Davenport, 1894, p. 563). Where to start? "The truth is that we need to reconstruct the psychological basis of our science" (ibid., p. 562).

What is the basis of human decision making? Davenport says that "the psychological law valid for all human activity: men follow the line of least sacrifice" (Davenport, 1919, p. 59), or that "force follows the line of least resistance," (Davenport, 1894, p. 565). This statement, he says, applies to economics, physics, sociology, and psychology. The orthodox "economic formula, our desire to maximize our utility with the least effort, is not applicable in all cases. He gives an example from working. Most people usually dislike work. Most men reach their fatigue limit. But some accept the pain of work because they want to avoid the pain of unsatisfied wants. In other words, all people want to minimize sacrifice. If you like work then not working involves a sacrifice of not working. If you don't like to work then not working involves a sacrifice of not having the things you want. In either case, people minimize sacrifice, and whatever they choose involves pain. Hence, the "problem of economics as the minimization of pain" (ibid., p. 564), or the "minimization of sacrifice." The value of a commodity is measured by the quantity of sacrifice in producing utility.

Costs are resistences. Davenport says that ultimately costs are the outcome of "opposition, conflict, hindrances, resistance" (Davenport, 1919, p. 62). Ultimately it is the resistances to production which determine cost. Resistances include the resistances brought about by "personnel preferences, repugnancies, considerations of climate, neighborhood, home ties, national prejudice, wholesomeness, cleanliness, good repute" (ibid., p.82). Resistances affect hiring the factors of production, resistances to increasing efficiency, resistances to selling the product. Cost is, therefore, the "money expression of the total of resistance to which any entrepreneurs is subjected in producing..." (ibid., p. 83). Davenport refers to pain costs as labor pains, an important aspect of cost. But, pain costs are not proportional to wages. Someone who feels a lot of pain from work but has a skill which is abundant will not earn more than a colorectum surgeon who really enjoys their work. So, wages are affected by the supply of labor as much if not more than the pain from labor.

Psychic income. Individual income consists of things which we desire for itself, and not because of what the income helps us to acquire. Income takes three forms, money, real, and psychic income. Nominal income is simply money income. Real income are the "things that are wanted for their service to human beings" (Davenport, 1919, p. 1). However, "in final analysis, all incomes are psychic incomes, the experience of having wants gratified" (ibid., pp. 1-2). Later in the book he says that "Ultimate income is psychic... Ultimate income is not the cash received, nor even the things which the cash will buy, but the benefits which these things render. In the ultimate sense, then, money income resolves into ... psychic income..." (ibid., p. 488). Davenport acknowledges that his use of the term psychic income is derived from Frank Fetter.

Social and benevolent affections. In his 1896 book, *Outlines of Economic Theory*, Chapter 3 is titled "The Economic Formula. To understand social phenomena one must understand the "ultimate principle of individual action" (Davenport, 1896, p. 29). *Political Economy* too often asserts that self-interest is man's fundamental motive. Yet, philanthropy suggests that this is not correct. And he says that if we consider family members who are not working in the market, then approximately 67 percent of all purchases in the market are "gifts" to others; "two-thirds of the conscious purposes of economic effort" is giving (ibid., p. 30). Modern behavioral economics sometimes refers to gift giving as our social and benevolent affections. Man's inherent self-interest as the ultimate principal of human action is but an "abstraction" of what Man is. If economics is going to be a science which is relevant to everyday life, it needs to include Man as he really is.

Z. Clark Dickinson (1889-1966)

> The improvement of the scientific borderland between psychology and economics is like the weather, in that there has been more talk about it than corrective action. (Z. C. Dickinson, 1931/ 1981, p. 489)

Z. Clark Dickinson received his Ph. D. from Harvard in 1920. Among other titles, he wrote, *Economic Motives* (1922), and *Compensating Industrial Effort* (1937). Among many other topics he wrote about the "old" and the "new" psychology. The "old" psychology was concerned with the "introspective analysis of consciousness." The "new," scientific, psychology corresponds with psychology being tied to biology, physiology, and behavioral points of view.

Revealed preferences. Economics and Psychology Dickinson says that economics is psychological-economics, being about both human nature and human behavior. In Economic Motives, he says that psychology is relevant to economics because human wants are central to both. In a 1922 version of revealed preference Dickinson says that "Economic wants, we may say, are easily inferred from what men do... The economist, therefore, is a psychologist is spite of himself" (Dickinson, 1922, p. 14). He says that we can benefit from learning about the "remote processes" of neuromuscular/physiological mechanisms. Dickinson says that the wants of a "real-man" are governed by imprudent instincts, moods, and rash actions, with reason arbitrating these other factors. We are not economic-man; we are a "rough approximation" of economic-man (ibid., p. 11).

Human rationality and cognitive errors. Dickinson distinguished "psychological process of reasoning," from "formal statement of a chain of reasoning..." (ibid., p. 167), and that the "process of reasoning is not a matter of syllogism, but of successive guesses at the solution..." (Dickinson, p. 168). Dickinson provides an example of a moderately complex problem showing that humans cannot "carry all its elements completely through the reasoning process" (ibid., p. 175). Here is the simple experiment, reminiscent of the experiments of Kahneman and Tversky, and others. "... one end of a band of paper is turned one hundred and eighty degrees and then the two ends are pieced together, leaving the half-twist in the circular band. The observers then predict what paper figures will result from cutting lengthwise completely through the band" (ibid., pp. 175-76). Dickinson says that few can solve the simple experiment. Simple?

Satisficing. What is reasoning if it is not substantive? Dickinson says that it is satisficing. He says that "our efforts to solve a rational problem do not occur in the order that our demonstration of proof follows after we have hit on the solution. What we do is try our successively our established reactions until the stimulation which keeps us trying is stopped by a successful combination of reactions" (ibid., p. 168).

Frank Fetter (1863-1949)

Frank Albert Fetter was an American-Austrian economist. He received a Ph.D. from the University of Halle in Germany in 1894. He referred to himself and several others as members of the "American Psychological School," where the term Psychological School is synonymous with the Austrian School. His publications include *Capital, Interest, and Rent* (1897), and *The Principles of Economics*, Volumes 1 & II (1905). Fetter's book, *Capital, Interest, and Rent,* is subtitled, *Essays in the Theory of Distribution*. It includes chapters on Bahm-Bawerk's theory of capital, and interest; Cassel's theory of interest, and Fisher's theory of capital and interest. His writings on some concepts which would become part of (N)BE are contained within this book.

Gospel of economics. Fetter says that economics is not about the "gospel of Mammon;" economics is a "social study for social ends, not a selfish study for individual advantage" (Fetter, 1897, p. 9). [FN. Economics majors, unlike other majors, have been found to be free-riders.] More specifically, economics is about choice. The economy may seem confusing and as busy as a "bee hive," but at the core are simply human choices. Some choices are the result of deliberation and conscious calculation. But many choices are the result of habit and/or instinct. All newborns have "natural impulses" or "instinctive reactions." As a person "attains his maturity, deliberate calculation enters more and more into the making of choice. Yet the instinctive and habitual elements of choice continue to be very potent" (ibid., p. 13). In sum, choice is very much influenced by impulse and by instinct. Human decision making has rational and irrational elements. Fetter acknowledged the benefits of volitional psychology because it gave a large role to impulse and instinct. Finally, the economic motive can be used for selfish or unselfish purposes. So, economics and ethics are not necessarily at odds with each other.

Psychic income. In *Economics*, vol. 1, Fetter (1915), distinguishes three types of income: money, real, and psychic. Money income is money, real income consists of "a stream of goods," and psychic income consists of feelings. That is, positive experiences we get from the things at our disposal. The importance of positive feelings? It is simply that "(anticipated) total psychic income is what motivates our economic activity – at least as far as this activity is determined by conscious purpose" (Fetter, 1915, p. 28). What determines the size of the "stream" of psychic income? According to Fetter the determinants include the natural temperament of the person, their acquired habits, and their state of health.

J. M. Clark (1884-1963)

Clark received a Ph.D. from Columbia University in 1910. He is known for the accelerator theory, the concept of workable competition, and the economics of overhead costs, among other things. He was a member of the American Institutionalist School. His books include, *The Control of Trusts* (1914), *The Economics of Overhead Costs* (1923), *Social Control of Business* (1926), *Preface to Social Economics* (1936), and *The Ethical Basis of Economic Freedom* (1955).

In *The economics of overhead costs*, Clark defines overhead costs as those which can't be attributed to any unit of activity. And overhead costs are not allocated on a rational basis. They are the costs due to "unused productive capacity." What makes these costs similar to the costs of X-inefficiency is the both are related to unused productive capacity.

Confirmation bias. Business people want to know how costs are affected by business activity. However, unfortunately s/he is compelled to use heuristics and inadequate indices which are designed to tell him what he wants to hear.

Omniscience. Clark says that economists being scientists desire accurate observations, and wish omniscience to be his will-o'-the-wisp. Clark says that the economist "tends to give terms the meaning they would have to an omniscient observer, forgetting that if such beings exist they have no need of his analysis" (Clark, 1923, p. 44). Ouch.

The limits of economic theory. In "Economics and Modern Psychology" (1918), Clark says that economic theory is a search for equilibrium rather then understanding economic processes, per-se. "Its study of processes hardly dares press beyond those processes that can be shown to tend toward equilibrium. . . " (Clark, 1918, p. 2). In other words, economic theory is about equilibrium not (directly) about real human behavior per-se. He cites Mitchell's 1937 book, *The Backward Art of Spending Money* as an example of economics going beyond equilibrium analysis.

Economists need to remember a few things about incorporating psychology into their economics. First, economists need to listen to psychologists, but not duplicate their psychology. Second, economics without psychology is "utterly meaningless" (Clark, 1918, p. 4). Economists can't ignore psychology because economics, which is the study of human behavior and human nature which are part of psychology. "If the economist borrows his conception of man from the psychologist, his constructive work may have some chance of remaining economic in character. But if he does not he will not avoid psychology. Rather, he will force himself to make his own and it will be bad psychology" (ibid., p. 4).

The maximization of utility can never be empirically verified; the term maximum utility is "fruitlessly non-committal" (ibid., p. 5). Fourth, economists do not have to study specific instincts, or the social origin of wants, or most of social psychology which is concerned with individual human desires. Economists take these as givens and develop our theories with these in mind. And unlike psychology we consider one want as good as any other. This attitude is what makes it possible to distinguish economics from ethics.

Ralph Hawtrey (1879-1975)

Hawtrey was the President of the Royal Economic Society from 1946 to 1948. In 1956 he was knighted for his contributions to economics. His publications include *Good and Bad Trade* (1913), and *The Economic Problem* (1925). What follows here comes from Hawtrey's book, The Economic Problem. Hawtrey's book is not a book (N)BE. It covers topics such as the market, international economic relations, costs, distribution of income, wealth, taxes savings, the family, and government. Within this set of topics he injects concepts which became part of (N)BE. In the Preface he says, "The intrusion of ethics and psychology into economics does not mean . . . that the subject is to be lifted nearer the clouds. On the contrary. . . it brings the subject into closer touch with the facts and interests of practical life" (Hawtrey, 1925, p. viii).

Hawtrey rejected overly abstract economics because, among other things, oversimplifying assumptions such as homo economicus prevent economists from understanding human nature. Hawtrey argues for interdisciplinary research, be it with psychology, history, institutionalism, anthropology or geography.

Dual personality. Hawtrey says that our life is a compromise between the animal (instinct) and the rational (consciousness). We are not economic-man. Were we wholly rational, constructing society would be a mathematical problem. But, it is more than math. "practical decisions are usually the result not of exact calculation but of judgment" (ibid, p. 142).

(Sub)conscious. When some activities have occurred outside the space of communication, but you still are conscious of something, it is called the subconscious. Hawtrey says that maybe the most important contribution of psychology to economics is our understanding of the subconscious and its role in intellectual activity.

HUMAN, not ECON, herding. Due to the "poverty of the human mind," the mind has difficulties originating ideas, and making practical judgments (ibid, p. 156). In addition, the mind makes errors in reasoning. The result is that we distrust everything that has not been verified by experience. The result of this is inertia and the status quo bias. The solution, according to Hawtrey, is herd behavior. Why? Because reasoning is difficult and the results are questioned, and the presumption from other people's conduct offers a short cut to a conclusion" (op cit). And, people imitate those close to them, we follow the edicts of fashion, we do not trust our tastes, and we do not want to be considered unconventional.

Welfare. Welfare consists of experiences, or states of consciousness which have ethical value, and which are "good as ends" (ibid., p. 189). The right end of human action is synonymous with the good. The good, can only intuitively perceived. Only states of consciousness are intrinsically good. hence states of consciousness are an essential component of human welfare.

John Maynard Keynes (1883-1946)

Keynes needs no introduction.

> Keynes' General Theory was the greatest contribution to behavioral economics before the present era. Almost everywhere Keynes blamed market

> failures on psychological propensities (as in consumption) and irrationalities (as in stock market speculation). Immediately after its. (Akerlof, 2002, p. 428)

Keynes' early beliefs. In the late 1930's Keynes wrote an essay, "My Early Beliefs." It reveals some of Keynes' explicit and implicit beliefs about psychology (and economics). Keynes begins by discussing a meeting he had with D. H. Lawrence in 1914. Keynes says that "...unfortunately I cannot remember any fragment of what was said, though I retain some faint remains of what was felt" (Keynes, 1949, p. 78; italics added – Two Memoirs... A. M. Kelley). For Keynes economics was a moral science, not a mechanical science. Mechanistic science has been associated with the name Newton and Descartes. However, Keynes rejected this view of Newton. For Keynes, Newton was a "magician," an alchemist, who made intuitive leaps to prove what he already knew. He used mathematics to communicate. For Keynes intuitive leaps could form the basis of rational beliefs. Which states of mind are good? Keynes says that goodness is known only by "direct inspection, of direct unanalyzable intuition about which it was useless and impossible to argue" (ibid., p. 84; italics added). Some of Keynes' early beliefs dropped by the wayside with age, but not all of them.

Duration neglect. Love was one of the most important ways of directing passionate contemplation. But how much love was enough? Keynes says that "... to return again to our favourite (sic) subject, was a violent love affair which lasted a short time better than a more tepid one which endured longer? We were inclined to think it was" (ibid., p. 88). It didn't matter how long love lasted and the total love felt. What mattered was the maximum amount of love that was felt at any time.

Long term expectations & investment. Our knowledge of the world is very limited, says Keynes. And so it would be "foolish" to base expectations on "very uncertain" events. We face a tradeoff. We can be guided by the facts that we confident about even though these facts are relatively less relevant to what we are trying to attain. Or we can use facts which are more relevant even though our knowledge of them are "vague and scanty" (Keynes, 1936, p. 148). In the end, what we do is to project the current situation into the future unless we "more or less definite reasons for expecting a change" (ibid, p. 148).

"Practical men" put the utmost importance on confidence, but economists "have not analyzed it carefully..." (op cit). Keynes insists on the limits of our knowledge and the illusion that we know more than we do. The knowledge which we use in our forecasts is its "extreme precariousness" (ibid., p. 149). For forecasts of several years in the future it is "very slight and often negligible," "little and sometimes nothing."

On what basis do we make forecasts? "... we have tacitly agreed , as a rule, to fall back on what is, in truth, a conventions ... assuming that the existing state of affairs will continue indefinitely, except in so far as we have specific reasons to expect a change" (ibid., p. 152). Such conventions are arbitrary and precarious, and is one reason why investment falls short of sufficiency. What heightens the precariousness of our knowledge? For one thing, the mass psychology of "ignorant individuals" creates a convention based on irrelevant information. This convention is 'subject to change without notice' as irrelevant information changes. And perhaps most important is that investors and speculators are concerned not with making above average forecasts as they are with predicting changes in the prevailing convention before others predict these changes. Why try to beat others than make better forecasts?

> Investment based on genuine long-term expectation is so difficult to-day as to be scarcely practicable. He who attempts it must surely lead much more laborious days and run greater risks than he who tries to guess better than the crowd how the crowd will behave. (ibid., p. 157)

Animal spirits. Besides speculation, instability in investment is due to animal spirits. Keynes explains it this way:

> ... the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than on a mathematical expectation... Most... of our decisions to do something positive ... can only be taken as a result of animal spirits, of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities... (ibid., p. 161)

Keynes is clear that long term expectations are not prisoner to "irrational psychology." But, at the same time, decisions about the future "cannot depend on strict mathematical expectation, since the basis for making such calculations does not exist" (ibid, p. 163). But we have an "innate urge to activity," and when we can calculate we do. But, for the most part we fall back upon "whim, or sentiment, or chance" (op cit).

A. C. Pigou (1877-1959)

Arthur C. Pigou (1877-1959), a British economist, a neoclassical economist whom Keynes used as representative of the Classical school against which Keynes built his argument in The General Theory of Employment, Interest, and Money. Pigou's books include Wealth and Welfare (1912), The Economics of Welfare (1920), Keynes' General Theory. A Retrospective View (1950), and Robert Browning as a Religious Teacher (1900).

Errors of judgment. Our Telescopic Faculty. In, The Economics of Welfare, Pigou says that people prefer pleasures now than in the future because our "telescopic faculty is defective, and that we, therefore, see future pleasures, as it were, on a diminished scale" (Pigou, 1920, pp. 25-26; italics added). Why do we fail to buy unemployment insurance? The difficulty is that "there is a tendency to let the future take care of itself, and not to make such preparations in good times that a dispassionate review of the probabilities would show to be desirable. This is partly due to the "difficulty of grasping the reality of a distant prospect" (ibid., p. 364).

Optimism bias. There is another aspect to the unemployment insurance situation. Even when Person-A dispassionately sees the probabilities of future unemployment for the "average" person, Person-A "secretly assumes that he himself is somehow superior to the average" (op cit). (N)BE refers to this as the "superiority illusion," or the "optimism bias." If only this bias did not exist, we would not undervalue the future and we would plan for the possibility of unemployment by purchasing sufficient insurance.

Industrial fluctuations and errors of judgment. Production and income depends in part on changes in labor effort engaged in work. The proportion of potential labor effort actually engaged in effortful work is part of the causes of (short run) industrial fluctuations. Leibenstein's explanation for X-(in)efficiency is similar to Pigou's emphasis on labor effort.

There are two major causes of expectations. Real causes are changes which have occurred or about to occur in industrial conditions. Psychological causes consist of changes in our attitudes about mind, which leads to our judgments not being stable, or constant. Unfulfilled expectations of business people are a principal cause of industrial fluctuations. Why are expectations not met? In other words, why do business people make errors of judgment? One important reason is that goods are manufactured (far) ahead in time that the goods are bought by the final user. The average size of the error among forecasters will be greater when the time gap is greater. Expectations replace facts, and these expectations are the impulse to action.

In a stationary state, meaning "steady self-repeating movement," neither real causes nor psychological causes can affect expectations. According to Pigou it leads to a lack of errors. "Because if everything were absolutely stable, recurring every year with exact similarity or in a perfectly regular progression, people could not fail to be aware of the relevant facts and to form correct judgments…Thus errors in forecasts result from inconstancy in facts" (ibid., p. 74). In a non-stationary state – non steadily self-repeating actions – only "perfectly intelligent persons" exist would preclude errors of judgment. What remains are errors in judgment by HUMANS. This is the cause of errors.

Ignorance. Relevant information that is not accessible to forecasters is another cause of errors. Ignorance leads to an underestimate of the activity levels of others during a boom period which leads new firms into industries where there isn't any "room" for them. During a depression there is an overestimate of the activities of others.

Herding. Eighth, herding increases the average size of the error because one forecaster draws other forecasters in the same direction. Herding is enhanced if business people are "in close physical proximity to one another in the business sections of large cities" (ibid., p. 86). Pigou says that these conditions create "psychological interdependence (op cit), and an error of optimism or pessimism spreads from one person (group) to another. Interdependence of business activity creates an inter-dependence of forecasts, and errors beget errors. The interdependence "means that large net errors of forecasts are liable to occur much more frequently than they would do if these links were lacking: and large net errors may be expected to carry with them large fluctuations in the aggregate volume of industrial activity" (ibid., p. 89).

Frank Knight (1885 – 1972)

Knight received his Ph.D. in 1926 from Cornell. He is perhaps most well known as the founder of the Chicago School. Knight was also a co-founder in 1947 and vice president of the Mont Pelerin Society. He was president of the American Economic Association in 1950. His best known publication is his 1921 book Risk, Uncertainty and Profit. His publications were numerous and varied. Knight was an economist, and a social philosopher. He had a libertarian leaning, a believer in freedom and a strong critic of social engineering. Knight's mentor, Herbert J. Davenport, was a leading figure in the "American Psychological School (APS)."

Knowledge is not observable. Economic behavior is the result of an intention or an intended result, which is not amenable to observation including empirical analysis in any admissible use of that term. Satisfaction, psychic income, or utility, the stuff of economics, is a "mental fact," and is not measurable at least the same way that physical magnitudes are measured. Economic knowledge depends on self-knowledge and the knowledge of others, specifically, others' minds. Hence economic knowledge requires intercommunications between and among minds, "mind reading."

Rationality. How far life is rational, meaning that life is governed by the means – end relationship. Knight says that life is not very rational. More than that, no one achieves the maximum. The gap between the maximum and actual behavior is due to ignorance, error, and prejudice, all of which affect real, human and choices. This knowledge of maximization or economic behavior can neither be observed or inferred from observations. People don't have tastes and preferences, and values which are given and stable. To anticipate correctly tastes must be, according to Knight, stable. But, they are not, again, according to Knight, stable. Our tastes are discovered through activity.

Economic man acts with complete rationality. However, humans are largely impulsive, "unthinking." In, "Economic Psychology and the Value Problem" he says that the assumption of economic man reduces the market process and human behavior to a mechanical process. However, "The view of human behavior as a mechanical process… is impossible to human beings… This is one of the main differences between the economic man and the real human being" (Emmett, 2009, p. 93). We are subject to optical illusions which separates us from economic-man.

The limitations of theoretical economics. An important limitation is that it assumes that human behavior is based on conscious motives. A second limitation of economic theory is that almost all activities of human being towards gratifying needs or desires is impulsive and capricious.

Third, the role of consciousness is central: we can draw conclusions based on the lines on the mouth of another, and/or, the gleam or twinkle" of an eye or a shrill or "soft" vocal sound. We use "sympathetic introspection" into what is going on in the "mind" of the object" contemplated, an ability based on the "mysterious capacity of interpretation" (Knight, 1921, p. 208; italics added).

The ordinary decisions in life. The mental operations leading to these decisions are "very obscure... perhaps ... it is because there is really very little to say about the subject" (ibid., p. 211). Knight says that it is not "reasoned knowledge." It may be a form of analysis, but it is a "crude" form involving inferences we make from "our experience of the past as a whole" (op. cit.). One thing is for certain about how we do these things: there is "very little 'technique'" involved (op. cit.). Some call this intuition, subconscious processes. Marshall called it "trained instinct." We do a lot of "mental rambling" and then somehow and from somewhere the answer just appears, as if effortlessly. Knight adds that the "striking feature of the judging faculty is the liability to error" (ibid., p. 230).

Irving Fisher (1867-1947)

One can see a pattern in Irving Fisher's writings. He divides the world into three parts or layers. First, money, a material layer. Second, the material things of the world which money buys and sells. And, third, the non-material layer of our life, the source of our utility – our consciousness, or psychic phenomena. Fisher is much known for his theory of interest, and his writings on capital, wealth, and income. His theory of interest distinguishes money interest from real interest; Income is divided into money and real income, and psychic income. Fisher considers the psychic form of income as being the ultimate or final form of income, as well as being final form of all economic phenomena.

Fisher was a neoclassical-marginalist with unusually sophisticated mathematical skills. He was also a member of the American Psychological School of economics, along with Frank Knight, and several others. His books include *The Nature of Capital and Income* (1906), *The Purchasing Power of Money* (1911), *How to Live* (1915), *The Money Illusion* (1928), and *The Theory of Interest* (1930),

Fisher denied the existence of homo economicus. He discussed the irrational elements in the determination of impatience and hence the rate of interest. The lack of complete rationality included the inability of distinguishing the monetary from the real values and how this distorted decisions. He also wrote about people lacking perfect self-control, lacking perfect foresight, and using habits which lead to non-optimal decisions. Fisher wrote about health, and how to live in a healthy manner.

Cycle of psychology. Fisher's theory of economic depressions begins with over-indebtedness which is followed by deflation. The cause of over-indebtedness, Fisher argued, is related to changes in psychology. Tobin said that his analysis anticipated aspects of behavioral economics (Tobin, 2005). Fisher's 1911 book, *The Purchasing Power of Money*, offers a theory of a financial crises is based on four distinct phases to the cycle of psychology. First, people are "blinded" by the expectation of large dividends of increases in income in the distant future. Second, people hope to make profits in the immediate future. Third, the "vogue of reckless promotions" by taking advantage of people's "irrational" expectations. Fourth, "Out-and-out" fraud against a "credulous and gullible" public.

Money illusion. In his 1928 book, The Money Illusion, Fisher says that believing that the value of currency never changes is a money illusion, leading to the use of monetary and not real values is economic decisions. It is an anathema, an abomination to economists. The reason: the money illusion "implies a lack of rationality that is alien to economists" (Shafir, Diamond, and Tversky, 1997, p. 341).

Time preference: Rational and Irrational Determinants. Fisher defined time preference, or impatience, as the "preference for a dollar's worth of early real income over a dollar's worth of deferred real income" (Fisher, 1930/1965a, p. 65). Rational reasons include the size and trend of income. The irrational component is that people become "blind" to future needs, and incomplete foresight and self-control. (Fisher, 1930/1965, pp. 72-3).

The nature of capital and income. As to the title of his book, he says that wealth consists of "material objects owned by human beings" (Fisher, 1906/1965, p. 3). A stock of wealth at a particular point in time is capital. A flow of services from capital through time is income. Capital is wealth, income consists of the services of wealth. Thus,

> Wealth is wealth only because of its services; and services are services only because of their desirability in the mind of man...The mind of man supplies the mainspring in the whole economic. It is in his mind that desires originate, and in his mind that the train of events which he sets going in nature comes to an end in the experience of subjective satisfactions. It is only in the interim between the initial desire and the final satisfaction that wealth and its services have place as intermediaries. (ibid., p. 41)

Fisher says that "It is usually recognized by economists that we must not stop at the stage of objective income," or enjoyable objective services. The final step or stage, and it is the psychic layer, "subjective services" (ibid., p. 166). Fisher refers to it as our "stream of consciousness" (ibid., p. 168).

Concluding thoughts

The idea for Roots and Branches was launched at a SABE behavioral economics conference in London. Speaker after speaker spoke as if behavioral economics began in 1974 with Kahneman and Tversky. I understand people not knowing much about George Tucker, David Green, T.N. Carver, Herbert Davenport, and/or Z. Clark Dickinson. I have been teaching history of economic thought for many years and I knew very little or absolutely nothing about them. But, Bentham, Jevons, Hawtrey, Pigou, and the others?

In my 2019 book, *The Beginnings of Behavioral Economics*, I referred to Herbert Simon, George Katona, and Harvey Leibenstein as the first generation or "old" behavioral economists; old referring to something being different, and coming before, the new behavioral economics. Mention Katona, and Leibenstein and you get blank stares from several people. Simon, everyone knows Simon and they know why he didn't deserve to win the Nobel Prize. After all, as one person said, his Ph.D. is in political science, not economics. Before 1974, there was no behavioral economics. I agree that there wasn't anything like the new (or modern) behavioral economics. But none at all? I hope that you will consider that this proposition is not correct.

References

Akerlof, George (2002). Behavioral Macroeconomics and Macroeconomic Behavior. *American Economic Review, 92*(3): 411-433.

Alcott, Blake (2004). John Rae and Thorstein Veblen. *Journal of Economic Issues, 38*(3): 765-786

Carver T. N. (1918). The Behavioristic Man. *The Quarterly Journal of Economics, 33*(1): 195–200.

Clark, J. M. (1923). *Studies in the Economics of Overhead Costs.* Chicago: University Chicago Press.

Clark, J. M. (1918). Economics and Modern Psychology. *Journal of Political Economy, 26*(1): 1-30.

Davenport, Herbert (1919). *The Economics of Enterprise.* New York: The Macmillan Co.

Davenport, Herbert (1894). The Formula of Sacrifice. *Journal of Political Economy, 2*(4): 561-573.

Dickinson, Z. Clark (1922). *Economic Motives.* Cambridge: Harvard University Press.

Dickinson, Z. Clark (1937). *Compensating Industrial Effort.* New York: Ronald Press.

Emmett, Ross (2009). *Frank Knight and the Chicago School in American Economics.* London: Routledge.

Fetter, Frank (1897/1977). *Capital, Interest, and Rent: Essays in the Theory of Distribution.* Menlo Park: Institute for Humane Studies.

Fetter, Frank (1915). *Economics, vol. 1*. New York: The Century Co.

Fisher, Irving (1906/1965). *The Nature of Capital and Income*. New York: A. M. Kelley.

Fisher, Irving (1911). *The Purchasing Power of Money*. New York: Macmillan Co.

Fisher, Irving (1928/2011). *The Money Illusion*. Mansfield Centre, Ct: Martino Pub.

Fisher, Irving (1930/1965). *The Theory of Interest*. New York: A. M. Kelley.

Frantz, Roger (2019). *The Beginnings of Behavioral Economics*. San Diego: Academic Press.

Frederick, Shane; Novemsky, Nathan; WANG, Jing (Jane); Dhar, Ravi; & Nowlis, Stephen (2009). Opportunity Cost Neglect. *Journal of Consumer Research, 36*(4): 553-56.

Gardner, Howard (1983). *Frames of Mind: The Theory of Multiple Intelligences.* New York: Basic Books.

Green, David (1894). Pain-Cost and Opportunity-Cost. *The Quarterly Journal of Economics, 8*(2): 218–229,

Hawtrey, Ralph (1925). *The Economic Problem.* New York: Longmans, Green and Co.

Jevons, William S. (1871). *The Theory of Political Economy*. London: Macmillan & Co.

Keynes, J. M. (1936). The General Theory of Employment, Interest, and Money. New York: Harcourt, Brace & Co.

Keynes, J. M. (1938). "My Early Beliefs." In, *Two Memoirs. Dr. Melchior: A Defeated Enemy and My Early Beliefs*. New York: A. M. Kelley.

Knight, Frank (1921/1965). *Risk, Uncertainty and Profit*. New York: Harper.

Knight, Frank (1923). The Ethics of Competition. *The Quarterly Journal of Economics, 37*(4): 579–624.

Knight, Frank (1925). Economic Psychology and the Value Problem. *The Quarterly Journal of Economics, 39*(3): 372–409.

Leibenstein, Harvey (1950). Bandwagon, Snob, and Veblen Effects in the Theory of Consumer Demand. *Quarterly Journal of Economics, 64*(2): 183-207.

Leibenstein, Harvey (1966). Allocative Efficiency and "X-Efficiency." *American Economic Review, 56*(2): 392–415.

Pigou, A. C. (1920). *The Economics of Welfare.* London: Macmillan & Co.

Prelec, Drazen, & Lowenstein, George (1998). The Red and the Black: Mental Accounting of Savings and Debt. *Marketing Science, 17*(1): 4-28.

Rae, John (1834/1964). *New Principles of Political Economy*. New York: A. M. Kelley.

Rick, Scott, Cryder, Cynthia, & Lowenstein, George (2018). Tightwads and Spendthrifts. *Journal of Consumer Research, 6*: 767-782

Shafir, Eldar, Diamond, Peter, & Tversky, Amos (1997). Money Illusion. *The Quarterly Journal of Economics, 112*(2): 341-374.

Smith, Adam (1759/1969). *Theory of Moral Sentiments.* Indianapolis: Liberty Fund Classics.

Smith, Adam (1776/1976). *The Wealth of Nations.* Chicago: University Chicago Press.

Tobin, James (2005). Irving Fisher: 1867-1947. *The American Journal of Economics and Sociology, 64*(1): 19-42.

Tucker, George (1860). *Essays, Moral and Metaphysical*. Philadelphia: C. Sherman & Son.