

## *Original Paper*

# The Religious, Scientific, Cultural, and Economic Foundations of America

Y. Datta<sup>1\*</sup>

<sup>1</sup> Professor Emeritus, Northern KY University, Highland Heights, KY 41099, USA

\* Y. Datta, Professor Emeritus, Northern KY University, Highland Heights, KY 41099, USA

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### **Abstract**

*Historian Lynn White wanted to understand why the Western civilization had exploited nature so much that its own quality of life--even its survival--was now at stake. White concluded that the answer is: the Judeo-Christian tradition.*

*The environmental movement began in the early 1960s, with far-reaching changes in American values and attitudes, that were powering a growing interest in wilderness and its preservation.*

*By destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects. Severed from the human community and its ethical protection, nature was fully exposed to human greed.*

*Aristotle's scientific philosophy of nature—animate and alive—dominated Western thought for two thousand years after his death. But thanks to the Scientific Revolution of the 16<sup>th</sup> and 17<sup>th</sup> centuries, the notion of an organic and spiritual universe was replaced by that of the world as a machine, and the word machine became a dominant metaphor of the modern era.*

*It was around 1850, that Western Europe and North America arranged a marriage between science and technology that signified the Baconian creed of power over nature. Its acceptance as a normal pattern of action may mark the greatest event in human history since the invention of agriculture.*

*Perhaps the most profound legacy of the Scientific Revolution is the principle of reductionism that encourages an atomistic and disintegrated view of nature. As a result, we have the Faustian bargain of Hydrogen bombs that pose an existential threat to the universe.*

*Individualism is first on the list of American cultural heritage. Next is the “Bootstrap philosophy.” This phrase has become part of American mythology, and the nation's attitude toward helping those in society that have been left behind; and we lecture them to lift themselves up by their bootstraps. Next are the negative attitudes toward government that are unjustified. Then there is the free-market crusade*

that has led to American economic decline. And next, this is their promised Utopia for what ails America:

- “Privatization, deregulation, downsizing, shrinking entitlements, and lower taxes.”

Smith’s explanation of the paradox of the interplay between supply and demand, is an important scientific contribution to society. But, why then did he cross that line, and enter the domain of metaphysics with his proclamation that “consumption is the sole end and purpose of all production”? Yet, he put no limits on consumption and left the door of overconsumption wide open.

Smith says that in an unfettered market--propelled by competition among self-interested sellers and buyers--the invisible hand will then allocate goods efficiently.

However, one of the best-kept secrets in economics is that there is no case for the “invisible hand.”

Finally, Adam Smith ignored the Industrial Revolution? This is because his static theory could not handle innovation.

### **Keywords**

Christianity’s dualism and anthropocentrism, mechanistic ideology, environmental movement, stakeholder theory of the corporation, Adam Smith’s theory of laissez-faire economics, the “invisible hand.”

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## Part I: Christianity: The Religious Heritage of America

### 2. Christianity's Belief in Dualism and Anthropocentrism

In a *path-breaking* essay, historian Lynn White (1967) wanted to understand *why* the Western civilization had *exploited* nature so much that its own *quality* of life--even its survival--was now *at stake*. White concluded that the answer is: the *Judeo-Christian* tradition (Datta, 2022a).

Environmentalist, Roderick Nash (1989) argues that White knew that the right question to ask was *not* Christianity's view of nature for all time, but rather: what did it mean to a *particular* society at a *given* time and place (Datta, 2022a).

A *central* tenet of the Judeo-Christian theology has been *dualism*—that man is *separate* from nature—and *anthropocentrism*: that man is the *master* and the *center* of this universe, with a license to *exploit* nature (*ibid*).

White accepted the idea that there was a biblical basis for environmentalism. However, he points out that for nearly *two* thousand years the Christian *tradition* had *not* been so construed (*ibid*).

Instead, people used *Scriptures* to justify the *exploitation* of nature in the same way that defenders of *slavery* used it to justify ownership and exploitation of certain classes of humans (*ibid*).

White believes that modern Christians *no* longer see the Bible as a justification for slavery. He thinks that perhaps a similar *reinterpretation* of the Bible about *nature* may now be under way. *Revelation*, after all is supposed to be an *unending* process (*ibid*).

### 3. Christianity's Quest for Certainty and Psychological Security

A *major* characteristic of Christianity has been belief in a *single* true God; an enormous emphasis on acceptance of *dogma* or *doctrine* that is *correctly* formulated; and a *mechanical* adherence to religious authority. This is clearly a reflection of the *mind-set* that is looking for *certainty*. That is why, commenting on Western societies in general, this is what Watts has to say (1977; Datta, 2022a):

- We are used to *absolutes*, to *firm* principles and laws to which we can *cling* for spiritual and psychological *security*.

### 4. Triumph of Christianity over Paganism: Greatest Psychic Revolution in History

In exploring the relationship between Christianity and paganism (White, 1967) has made a remarkable statement: That the victory of Christianity over paganism was the *greatest* psychic revolution in the history of the Western culture (Datta, 2022a).

Paganism was originally a *pejorative* and *derogatory* term for *two* reasons. One is that it was a religion of the *peasants*. Second, its adherents believed in *polytheism*--belief in more than one God (Note 1).

Often paganism is *not* identified as a traditional religion, per se, because it has *no* official doctrine. However, while it has a variety of traditions, a *common* belief is the “*divine* presence in *nature* and the *reverence* for the *natural* order in life” (Note 1; *italics* added).

Pre-Christian cultures believed in *animism*: that every part of the environment--living *and*

non-living—had a *consciousness* or *spirit*. White has described how this idea worked for the *common* public (Datta, 2022a):

- By *destroying* pagan animism, Christianity made it possible to *exploit* nature in a mood of *indifference* to the feelings of natural objects. Severed from the *human* community and its *ethical* protection, nature was fully exposed to *human greed*.

## Part II. The Scientific Revolution

### 5. From a Cosmic Organism to a World Machine

Aristotle's (384-322 BC) scientific philosophy of nature—*animate* and *alive*—*dominated* Western thought for two thousand years after his death (Capra, 1996; Sheldrake, 1994; Datta: 1998, 2022a).

However, a *radical* change occurred in scientific thought during the 16<sup>th</sup> and 17<sup>th</sup> centuries. As a result, this medieval worldview went through a *fundamental* change. In the words of Capra (1996), the notion of an *organic* and spiritual universe was replaced by that of the world as a *machine*, and the word machine became a *dominant* metaphor of the modern era. This *radical* change was brought about by the new *discoveries* in physics, astronomy, and mathematics known as the *scientific revolution*, and associated with the names of Copernicus, Galileo, Descartes, Bacon and Newton (also, Sheldrake, 1994; Datta: 1998, 2022a).

### 6. Objectify the World to be Manipulated and Controlled

Rene Descartes' (1596-1650) philosophy was “to *objectify* the world, to turn everything into an object or thing to be *manipulated*, and *controlled*” (Rockefeller in Rockefeller & Elder, 1992; Datta: 1998, 2022a).

To Descartes goes the credit of inventing the method of *analytic* thinking: the principal of *reductionism*. That means *breaking* a complex system into *parts*. So, if you understand the *parts* that means you understand the *whole*; in other words, that the *whole* is equal to the *sum* of its *parts* (Capra, 1996; also, Datta: 1998, 2022a).

### 7. Emphasis on Certainty

Descartes divided the universe into two distinct realms: *mind* and *matter*. Surprisingly, he characterized *nature*—even *living* organisms—as a perfect *machine* governed by *precise* mathematical laws. In addition, he placed a special emphasis on *certainty* and immunity from doubt in scientific research (Solomon & Higgins, 1996; Capra, 1991; Datta: 1998, 2022a).

As mentioned in Section 3, Western societies in general have a *mind-set* that is looking for *certainty*. A modern example of such an outlook has been provided by managers in America. Compared to their Japanese and European counterparts, American managers have had *trouble* dealing with *ambiguity* and *uncertainty* (Datta: 1998, 2022a).

## 8. Five Principles of the Mechanistic Ideology

According to Lodge (1976), *five* major theories or principles—specialization, reductionism, objectivity, rationalism, and materialism—form the foundation of this mechanistic ideology. It is closely related to the American social philosophy which exalts individualism, sanctions the sanctity of a contract, and worships at the altar of free markets and competition (Datta: 1998, 2022a).

- *Specialization* is the first principle: the process of fragmentation that is central to the *efficiency* of division of labor.
- *Reductionism* is the second principle. It is based on the belief, that in order to understand a system it is necessary to break it apart, and if you know enough about the parts, you can understand the whole.
- *Objectivity*, the third principle, asserts that in order for knowledge to be *scientific* it must be objective. In other words, it must be quantifiable. Thus, "what cannot be measured presumably is *not* worth knowing."
- *Rationalism*, the fourth principle, exalts *reason* and downgrades emotions, intuition, and spiritual perceptions: all of which are regarded as *unscientific*, and the domain of mystics.
- *Materialism* is the fifth and the last principle: a concept which tends to identify reality with *physical* matter. Thus, what counts is what we can feel and touch and see.

## 9. Science & Technology to Control Nature: Greatest Quest Since Invention of Agriculture

### 9.1 Bacon: Make Nature a Slave of Mankind

Francis Bacon (1561-1626), who was not a scientist but a lawyer, was one of the early prophets of the *power* and promise of science. He triumphantly proclaimed that the new science would soon make 'Nature, with all her children' the '*slave*' of humankind (Datta, 2022a).

Watts (1991), too, makes the point that "the *scientist*, despite his theoretical naturalism, tends to regard *nature*-- human or otherwise--as a world to be *conquered* and *reordered* (Datta, 2022a).

### 9.2 Science & Technology to Control Nature

It was around 1850, that Western Europe and North America arranged a "*marriage* between science and technology that signified the Baconian creed of *power* over nature, as we have mentioned above. Its *acceptance* as a *normal* pattern of action may mark the *greatest* event in human history since the invention of agriculture, and perhaps in *nonhuman terrestrial* history as well (White, 1967; Datta, 2022a).

## 10. Present Science & Technology Infused with Orthodox Christianity's Arrogance toward Nature

White (*ibid*) believes that *both* our present science *and* our present technology are so tainted with orthodox Christian *arrogance* toward nature that *no* solution for our ecological crisis can be expected from them *alone* (Datta, 2022a).

### Part III. The Dangerous Illusion that Man Can Control Nature

#### 11. Quantum Mechanics and a Holistic Worldview

With the arrival of quantum mechanics early during the last century, the physicists *abandoned* the idea of identifying matter with “things” or “solid objects.” Instead, they adopted a new *holistic* view based on the notion of *relationships* (Capra, 1982; Datta: 1998, 2022a). Nevertheless, even not very long ago, the majority of management theorists and practitioners still shared the traditional Western scientific ideology, based a *mechanistic, reductionist* worldview (Hurst, 1989; Datta: 1998, 2022a).

#### 12. Man, and Nature--An Organic Whole

Nash (1989; Datta, 2022a) points out that Eastern religions--e.g., Hinduism, Buddhism, Taoism, and Zen Buddhism--totally *reject* the dualism and anthropocentrism of Christianity. He further states:

- Eastern religions assumed the ultimate *oneness* of all of nature’s components. By advocating the *submersion* of the *human self* in a larger *organic whole* they cleared the intellectual way for *environmental* ethics.

In the words of Nash (1989), one scholar who has *stood out* for his influence on American thought about *nature*, is Alan Watts, a Zen Buddhism scholar—and a practicing Buddhist. Watts’s readers came away with an unmistakable message: a fully developed moral sense *must* include *everything* in nature (Datta, 2022a).

Commenting on the Christian tenet of *dualism*, Watts (1991) offers the following insight that is quite *compelling* (Datta: 1998, 2022a):

- From a coldly intellectual point of view, it becomes clearer and clearer that we do *not* live in a divided world. The harsh division of spirit and nature, mind and body, subject and object, controller and controlled are seen more and more to be *awkward* conventions of language. These are *misleading* and clumsy terms for describing a world in which all events seem to be mutually *interdependent*—an immense complexity of subtly *balanced* relationships which, like an endless *knot*, has *no* loose end from which it can be untangled and put in supposed order.
- A world of *interdependent* relationships is a *seamless unity*, where things are intelligible *only* in terms of each other. In such a world it is *impossible* to consider man apart from nature, and where man is himself a *loop* in the endless *knot*.

#### 13. The Whole is Not Equal to the Sum of its Parts

Perhaps the most *profound* legacy of the *Scientific Revolution*, even to this day, is the principle of *reductionism*. That means *breaking* a complex system into *parts*. So, if you understand the *parts*, you understand the *whole*.

What this really means is that the *whole* is *equal* to the *sum* of its *parts* (Section 8).

Watts (1991; Datta, 2022a) argues that this approach encourages an *atomistic* and *disintegrated* view of nature. He says:

- Nature cannot *wisely* be controlled the same way it has been *studied—piecemeal*. Nature is through and through *relational*, and interference at *one* point, has *interminable* and *unforeseeable* results on the *other*. But whereas formal scientific knowledge is *departmentalized*, the world is *not*, so that mastery of a *single* department of knowledge is often as *frustrating* as a closetful of *left* shoes.
- Man *exploits* the resources of the earth and the energies of *radioactivity* with only the *fragmentary* knowledge of the *complex* relationships so *disturbed*.

Mintzberg (1994), too, agrees with Watts that the assumption of the Western scientific ideology that “the whole is *equal* to the sum of the parts” is a proposition that is patently *false*. More importantly, he makes a *salient* point. He points out that defining what the nature of a business should be, or determining its key objectives, calls for a picture that looks at the *whole*. As such, this process is *not* about analysis, but *synthesis*: a concept that is *missing* from the lexicon of Western scientific ideology (Datta, 2021a).

#### 14. The Faustian Bargain of Nuclear Bombs

White (1967) warns us that *Hydrogen* bombs pose an *existential* threat to the universe. This is because, a war fought with them might *alter* the *genetics* of *all* life on this planet (Datta, 2022a).

Sheldrake (1994) says that Dr. Faust epitomized the quest for *superhuman* power. Similarly, like Faust, Frankenstein, too, was driven by a desire to attain *godlike* power. *Ironically*, Frankenstein was *destroyed* by the monster that he himself created (Datta, 2022a).

#### 15. Credit Default Swaps (CDS): Financial Weapons of Mass Destruction

In 1994 a team of brash, young, idealistic bankers from J.P. Morgan—many with degrees in mathematics and computer science—got together in Boca Raton, Florida to address a problem that has bedeviled banks for ages: the *risk* of loan default. With the heady *arrogance* of youth, they all believed that they held the *secret* to transforming the financial world (Tett, 2009; Datta, 2010).

The team introduced a derivative called credit default swap (CDS): an *insurance* policy that would enable a bank to *transfer* default risk onto a *third* party in lieu of payment of a *regular* premium. They argued that this would *revolutionize* banking because it would allow banks to *separate risk from lending*. This *seemingly* savvy maneuver would *free up* the bank’s capital reserve, permit it to make *more* loans and *remove* the credit risk from its books (Tett, 2009; Datta, 2010).

Relying on Li’s Gaussian copula model, Wall Street banks began to believe that default risk in *subprime* mortgages could virtually be eliminated simply by a process of *diversification*: by pooling individual mortgages into bundles and slicing them into *tranches*, each with a different risk and return profile (Tett, 2009; Datta, 2010).

The Morgan team’s *utopian* dream of separating risk from lending was *too good to be true* because it meant that “you could *have* your cake and *eat* it too!” (*ibid*).

First, the CDS derivatives were so *complex* that hardly anyone understood them: *not* even Soros; Rohatyn described them as potential “hydrogen bombs.” Warren Buffet *presciently* predicted that these derivatives were “financial weapons of mass *destruction* (Datta, 2010).

Later, recalling the event, Mark Brickell, then J.P. Morgan’s managing director, made the following memorable comment (Philips, 2008; Datta, 2010):

- “I have known people who worked on the Manhattan Project. And for those of us on that trip, there was the same kind of feeling of being present at the creation of something *incredibly* important.”

Like Oppenheimer and his team of *nuclear* physicists in the 1940s, little did Brickell and his group realize that they were creating a *monster* (*ibid*).

The enormous *deregulation* of the financial markets led to a *meltdown* of the global financial markets in 2008, that many consider as the *worst* since the Great Depression (Datta: 2010, 2022b).

The *TNT* was the *collapse* of the U.S. *housing* market, and the *failure* of the \$1.2 trillion *subprime* mortgage derivatives—Collateralized Debt Obligations (CDOs)—that major Wall Street banks had *created*, and *aggressively* sold around the world (*ibid*).

But the *rocket fuel* was the *Credit Default Swaps*—CDS—a market 50 times *bigger* than the subprime mortgage market (*ibid*).

#### *15a. Most Critical Factor in Credit Default Swaps: Systematic risk*

When a recession occurs it can result in *real* losses which have to be borne by *someone* in the system. While an *individual* business may be able to transfer default risk to another, the *entire* financial system *cannot* successfully pass the risks off through ever more ‘sophisticated’ financial modeling (Datta, 2010).

But the most dangerous is *systematic* risk. It is a risk that is based on the possibility that derivative contracts of a company are *not* independent, and *all* may be dragged into a recession *simultaneously* (*ibid*).

Since all Wall Street banks were using Li’s model it created a new *correlation* risk. More importantly, the model was *not* equipped to handle the situation where boats might *all capsize*, en-masse (Tett, 2009; Datta, 2010).

### **16. Mother Nature Has Been--and Will Always be—In charge**

Nash (2014) reveals the *lessons* that he learned from his *decades*-long association with the running whitewater rapids. As a result, he became more *sensitive* to the *humbling* power of *nature* to *disrupt*, *upend*, or *diminish* human ambition, its capacity to *frustrate* our drive to claim control over that which we dub as *wild* (Datta, 2022a).

Nash says one such marker is *Colorado River’s Lava Falls* considered to be the most *difficult* stretch of runnable white water in the West. Those who make it past its violent gyrating waters might give in to the exultation of the moment, and be *tempted* “to think you have *conquered* the rapid.” However, Nash

was *not* one of them (Datta, 2022a).

Nash then goes on to say: “You *never* really beat the *big* ones...The river just decides to *let* you through” (Datta, 2022a).

Major Kendall Dunn is the chief pilot of the 53<sup>rd</sup> Weather Reconnaissance Squadron. A part of his mission was flying into the hurricane Ian, which struck the Southwest coast of Florida on September 28, 2022. It scored a 3-way tie for the *fourth* strongest hurricane ever to make landfall in the state (Rosenthal, 2022).

Major Dunn said that even though C-130 is a big powerful plane, yet Hurricane Ian was able to overpower it, “with the feeling at one point of being in the grip of a *large* hand.” He added that “I ‘ve never felt so *small*” (Horton, 2022, *italics* added).

## Part IV. Birth of the Environmental Movement in America

### 17. Growing Interest in Wilderness and its Preservation

In 1967, Environmentalist, Roderick Nash published his *phenomenal* book: *Wilderness and the American mind* (2014). *The Los Angeles Times* listed it as one of the *hundred* most influential books during the *past* quarter century. The *Outside Magazine* included it in a survey of “books that *changed* our world” (Datta, 2022a).

Char Miller “provides a *twenty-first-century* perspective on how the environmental movement has *changed* since 1967, including the ways in which contemporary scholars are *reimagining* the dynamic relationship between the *natural* world and the *built* environment” (Nash, 2014, Datta, 2022a).

Many *iconic* writers, such as, Henry David Thoreau, George Caitlin, John Muir, Aldo Leopold, and John McFee have extolled the virtues of wilderness. In the early *sixties*, far-reaching *changes* in American values and attitudes were powering a growing interest in *wilderness* and its *preservation*. Among these were the following developments (Nash, 2014; Datta, 2022a):

- Rachel Carson launched an extraordinary decade with her 1962 book, *Silent Spring* on insecticides.
- Aldo Leopold’s book, *A Sand County Almanac*, which had *languished* since its publication in 1949, became a *best-seller*, and *changed* the definition of *ethics* for an entire generation of *conservation-oriented* Americans.
- In 1968, the plans to *damn* the Colorado River in the Grand Canyon were *defeated*.
- In 1970, the American public celebrated the *first* Earth Day.
- In 1970 the National Environmental Policy Act was passed.
- In the next *three* years the passage of Marine Animal Protection Act, and the Endangered Species Act, showed that the American politicians *and* public really *did* understand Rachel Carson’s message of *ten* years ago.

The Wilderness Act of 1964 provided *substance* to Bob Dylan’s observation about *changing times*. *Yet*, the legislation included a number of qualifications, special conditions, and *loopholes* that *diluted* its

effect. This means that these *compromises*--in the words of Nash--were “a classic instance of Americans’ *ambivalence* about the relative merits of wilderness and civilization” (Nash, 2014; Datta, 2022a).

## Part V. The Cultural Heritage of America

### 18. Individualism

The mechanistic ideology—that the world is a *machine* (Section 5) --is closely related to the American *social* philosophy which exalts *individualism*, sanctions the sanctity of a *contract*, and worships at the altar of *free* markets and *competition* (Datta, 2022a).

Nevertheless, there are *three* sides of this legacy. One is the idea of individual choice, responsibility, and achievement. Second is an unspoken faith in perpetual progress. Third, Western mechanistic ideology has degraded the individual by refusing to recognize the importance of those natural qualities that make humankind human.

According to Naipal (1990), one fundamental attribute that distinguishes Western cultures from the East is *primacy* of the individual: grounded in the idea of *individual* choice, responsibility, and achievement. The is an idea that so sharply distinguishes Judeo-Christian theology from the *fatalism* of Eastern religions--such as Hinduism--is the concept of *evolution* and *progress*: a notion that provides the world with a basis for *optimism* and *hope* (Datta, 1998).

Moreover, Western society is also dominated by an implicit faith in *perpetual progress*: a concept rooted in Judeo-Christian theology. Yet, this idea seems to confuse happiness with more *material* goods (Watts, 1991; Datta, 2022a).

In the words of Alan Watts (1977), it is *ironic* that the Western mechanistic ideology has *belittled* the *individual* by treating human beings as *machines*; and by *refusing* to recognize the *salience* of those *natural* characteristics that make humankind *human*: creativity, intuition, judgment, courage, persistence, spirituality, and so on (Datta, 2021a).

However, in the *real* world of business, these are the *very* human qualities that are the *hallmark* of the strategic management process. For example, the right answer to the question: “What is our business?” is usually anything *but* obvious; it requires *judgment* and *courage* (Datta, 2021a).

Managerial *aspirations*, willingness to take *risk*, *consistency* of purpose, *persistence*, *commitment*—and even *luck*—also play a *critical* role in determining the *long-term* success of a business (*ibid*).

Chester Barnard more than 50 years ago, recognized the superiority of *intuition* over rational processes for *top* management. Strategy deals with the *unknowable* to which there is objectively *no* right answer (*ibid*).

### 19. The Bootstrap Philosophy

In the early 1800s, the expression “pull oneself *up* by the bootstraps” meant the *opposite* of what it means now. Then it was used mockingly to describe an *impossible* act. Yet, this phrase has become part

of American *mythology* and the nation's attitude toward helping those in society that have been left *behind*; and we lecture them to *lift* themselves up by their bootstraps (Kristoff, 2020).

Kristoff (*ibid*) points out that this mythology drives out good policy three ways:

- This view is based on the *erroneous* belief, that historically Americans prospered primarily through their rugged individualism. But then why did the pioneers go west? The answer is the government program that gave away *ten* percent of American *land* as homesteads. And about *one fourth* of Americans (almost all *white*) owe part of their family wealth to the homestead law.
- Second, there was American investment in *free* high schools, state colleges and universities (*ibid*).
- The U.S. transcontinental railroad, constructed between 1863 and 1869, connected the eastern U.S. with the Pacific coast. The rail line was built over *public* lands provided by extensive U.S. *land grants* (Note 2).
- The G.I. Bill aimed at the returning WWII soldiers (veterans). It *opened* the door of higher education to the American working class as *never* before (Datta, 2022b).
- The U.S. government also *guaranteed* loans for veterans that enabled them to buy a home, business, or farm (*ibid*).
- Franklin D. Roosevelt signed the Tennessee Valley Authority Act into law that enabled the central government to build *dams* along the Tennessee River that controlled flooding, and generated low-cost *hydroelectric* power for *rural* areas (*ibid*).
- In 1956 President Eisenhower signed the Federal Highway Act that created a 46,000-mile "National System of Interstate and Defense Highways" (*ibid*).

The bootstrap narrative *erroneously* suggests that welfare programs are counterproductive because they foster "dependency." By comparison, Europe and Canada have more generous social programs (Kristoff, *ibid*).

Kristoff (*ibid*) points out that life is very difficult for people "who come from violent homes, poor schools or foster care, or face impediments of race or class."

Kristoff believes we can try to address these challenges, "but *not* by sermons about bootstraps" (*ibid*, *italics* added).

## 20. Negative Attitudes toward Government

Lutz and Lux (1988, p. 202) argue that the attitude of (mainstream) economists towards government goes back to the beginnings of *laissez-faire* economics championed by Adam Smith. From its very origin, *not* only was economics *not* sympathetic to government action, but it became a *doctrine* whose mission was to call, repeatedly, for *limiting* government's role in social welfare, trade, and industry.

In Adam Smith's time, government was largely under the rulership of *land*-owning aristocracy. It was only *after* the death of Adam Smith, that the British Parliament started to assume its present form as a

representative democracy (*ibid*, p. 205).

Interestingly, Lutz and Lux (*ibid*, p. 206) identify *three* stages in the development of the relationship between government and market. The *first* stage was *mercantilism*. The *second* was Adam Smith's *laissez-faire* stage that secured freedom from the rulership of the *crown* and the *landed aristocracy*. Finally, the *third* is the *present* stage of *democracy* in which the government is now an instrument representing the interests of the *public* at large.

As such, the whole view of government for Smith was totally different from what it is today. Then government was largely the handmaiden of the *wealthy* and the powerful (*ibid*, p. 206).

However, Lutz and Lux (*ibid*, p. 206) argue that economic theory is still *mired* in stage *two*. Although their book was published in 1988, the comments they have made are *true* even *today*, as the following section shows:

## 21. Milton Friedman's Free-Market Crusade Led to America's Economic Decline

In an article published in *The New York Times Magazine* in 1970, Milton Friedman—who later won a Nobel Prize—declared that the *social* responsibility of a business is “to increase its *profits*” and “to make as much money as possible” (Datta, 2021a).

He forcefully alleged that “social responsibility” is a “fundamentally *subversive* doctrine,” and its advocates in a *free-enterprise* system are “preaching pure and unadulterated *socialism*” (*ibid*).

And it is *this* doctrine that has *guided* businesses and economists for the last *fifty* years (*ibid*).

The essay sparked a wide *revolution*. Ronald Reagan and Margaret Thatcher found the Friedman doctrine as a powerful *platform* from which to launch their radical *free-market* agenda. Economists, such as Eugene Fama, declared that *free* markets were the *only* valid path of growth and value. Likewise, law professors, such as Lucian Bebchuk, affirmed that corporate boards had *no* right to ever overrule investors *even* if they had a short-term focus (*ibid*).

The publication of the Friedman doctrine represented a *turning* point. This is when mainstream economists and business leaders in America embarked on a path toward *unfettered* capitalism (*ibid*).

Encouraged by the Friedman doctrine, American CEOs set themselves on a journey toward *profit* maximization—or its counterpart: maximizing *shareholder* value. This new mind-set encouraged *risk aversion* and *short-run* behavior: an accountant's *short cut* to profits, with a focus on *cost reduction* rather than *long-term* concerns about innovation, quality, and customer satisfaction. And it was this *momentous* philosophical shift—from substance to *shadow*—that has contributed so much to the American industrial *decline* (Datta: 2021a, 2022b).

*Lower* quality and *lack* of innovation played a key role in the virtual *disappearance* of U.S. companies from the consumer electronics industry, and their *loss* of world dominance in such markets as automobiles, steel and tires (*ibid*).

Economic *inequality* in America has been going up persistently since 1974, squeezing the middle class. America's income inequality has now *widened* so much that it rivals the *highest* level recorded in

1928 that led to the Great Depression of 1929 (Datta: 2010, 2011, 2021a, 2022b).

Finally, a relentless drive toward *deregulation* led to a massive *meltdown* of the financial markets in 2008: the *worst* financial disaster since the Great Depression of 1929 (*ibid*).

Prof. Joseph Stiglitz won his Nobel Prize in Economics in 2001. At that time, he gave a talk at the University of Chicago presenting an early version of his *research* which *established* the notion that pursuing *profit maximization* did *not* lead to maximization of social welfare. This is because Adam Smith was *wrong* in saying that the pursuit of *self-interest* would lead--as if by an *invisible* hand--to the *well-being* of society (Datta, 2021a).

During the discussion, reports Stiglitz, Friedman simply *couldn't* or *wouldn't* accept the result of Stiglitz' research for which had just won a Nobel Prize (*ibid*).

Stiglitz says that Friedman had done distinguished analytic and empirical work in economics. However, later he became largely a conservative *ideologue*. Darren Walker, CEO of the Ford Foundation suggested that Friedman's thinking became *theology* (*ibid*).

Stephanie Mudge observes that Friedman's articulation of markets as the "source and arbiter of human freedoms" had a *semi-evangelical* tone (*ibid*).

## 22. The Utopia of Laissez-faire Economics of Free Markets

This *anti-government* attitude has been fostered by *free-market* enthusiasts. For example, President Ronald Reagan clearly said it in his first inaugural address: "Government is *not* the solution to our problem; government *is* the problem" (Datta, 2021a).

Prof. Robert Frank (2021) points out that in many cases *individually* rational behavior is *collectively* irrational. For example, buying 5,000-pound cars when 2500-pound cars would be almost better for everyone else, would clearly be a social *waste*. So taxing cars by *weight* would be a relatively easy solution. Yet, opponents of government might say such an action is *social engineering* (Datta, 2021).

But *so* are speed limits and traffic lights (*ibid*).

In an incisive article, Mintzberg (1996) says that after the fall of Eastern Europe many *wrongly* concluded that Capitalism had won. As a result, U.S. and U.K. are more likely to favor the *private* sector over the public. However, Mintzberg believes that this is *not* going to help society (Datta, 2021a).

He adds that capitalism did *not* triumph at all: *balance* did. We in the West have been living in a balanced—*mixed*-- society: with a strong private sector, a strong public sector, cooperatively-owned organizations, and non-government organizations—NGOs (Datta, 2021a).

Robert Kuttner (1999, p. x) says that after the demise of centrally planned economies—coupled with a relatively prosperous America—it is reasonable to expect Americans to be preaching to the world about the superiority of their system: *mixed capitalism*. In contrast, the political climate in the country asserts that we *abandon* this successful path for a "more rough and ready version of a market economy."

“The billboards on the road to this promised economic Utopia offer now familiar policy prescriptions for what ails America (*ibid*):

- “Privatization, deregulation, downsizing, shrinking entitlements, and lower taxes.”

Kuttner (*ibid*, p. x) points out that the *intellectual* bedrock of this push is a *religious* adherence to the belief that literally all *public-sector* activity—for example, financial support for the poor, protection of rights of labor unions, and *even* macroeconomic policies—does more *harm* than good.

Believers of this ideology view *laissez-faire* economics as a “*revealed wisdom*” (*ibid*).

Religious faith in this idealized framework has generated a political *jihad*, intent upon peeling off the community and government *safeguards* against market abuses and imperfections. These guard rails are central to the modern American economic system that was built during the Great Depression of 1929, and after World War II (*ibid*).

Furthermore, “an overtly and proudly *selfish* ideology finances and propels the drive to *cut* taxes on the *wealthy*, punch *holes* in the safety net, “*unchain* business from the shackles of regulation and litigation” (Kuttner, p. x).

The conservative dialectic *criticizes* those who would “reward need” by supporting *public* programs for the poor, and even *reject* Adam Smith’s belief that the *state* must provide the foundation of the *education* and physical *infrastructure* of an industrial society (*ibid*, p. x).

The *extreme* manifestation of the current conservative economics appears to imply that there is *no* such thing as a market failure. That in *every* situation the market will produce *better* results than alternatives. The “majority of scholars recognize that it carries an important point to the level of *absurdity*” (*ibid*, pp. x-xi, *italics* added).

The *ravages* of an unpoliced financial market are well known. “At a *minimum*, modern commerce and economic growth depend upon: clear rules of the game, enforceable contracts, independent courts, community infrastructure, and public investment, especially in *education*” (*ibid*, p. xi, *italics* added).

Although President Reagan was the major driving force toward deregulation during the 1980s, President Clinton—a Democrat—*too*, played an important role in *deregulating* financial markets. Amazingly, he *signed* the *Commodity Futures Modernization Act* (CFMA) of 2000, which now *allowed* investors to *bet* on securities they did *not* own. Thus, CFMA *rolled back* the *gambling* activity that was *illegal* for almost the entire twentieth century (Datta: 2011, 2022b).

Earlier, in 1999 President Clinton had signed into law the *Financial Services Modernization Act* which *repealed* the *Glass-Steagall Act* (GSA) of 1933. In the aftermath of the Great Depression of 1929, GSA was designed to *separate* commercial banking from investment banking to *protect* bank *depositors* from the dangers of bankers indulging in *risky* investments and *speculation* (Datta: 2011, 2022b).

## Part VI. The Intellectual Foundation of Capitalism

### 23. Calvinism, Protestantism, Capitalism, and Self-Interest

Max Weber (1930), a German sociologist and political economist, contends that the modern capitalist system has grown out of the Protestant Reformation movement that began in the sixteenth century, especially the *Calvinistic* theology. With the break-up of the *feudal* system, the *profit* motive became a dominant force in the economy. Under the Calvinistic ideology, the pursuit of *wealth*--once regarded as *hazardous* to the soul--acquired a new *sanctity*. This new religious concept professed that pursuit of *wealth* was not merely an *advantage* but a moral *duty*. The result of this shift was a profound *change* in moral standards. While, earlier the motive of economic *self-interest* was considered a *frailty*, it was now elevated into “an ornament of the *spirit*,” and “canonized” as a *virtue* (Radhakrishnan, 1989, p. 268).

In modern times, Milton Friedman, a champion of *free* markets, was a prime defender of the creed of *self-interest* that is an integral part of such an economy (Lasch, 1995, p. 102; also, Lodge, 1976, chap. 1; Datta, 2021a).

## Part VII. Adam Smith: Father of the Laissez-faire Economics

### 24. A Brief Biography of Adam Smith

Adam Smith (1723-1790) was an 18th-century Scottish philosopher, and is considered the *father* of modern economics (Note 3).

According to P. J. O'Rourke (2007), *The Wealth of Nations* by Adam Smith, originally published in 1776, “is without doubt, a book that *changed* the world” (*italics added*).

We know Adam Smith today as the *father* of *laissez-faire* (“to leave alone”) economics. This is the idea that government should leave the economy *alone* and *not* interfere with the “natural course” of *free* markets and *free* trade (Note 4, *italics added*).

Smith held the most significant professional chair at the most important institution: University of Glasgow. However, this was *not* a chair of economics—because the discipline did *not* exist then—but of moral philosophy (Knee, 2017).

Originally, the field of *political economy* was a branch of *philosophy*. It took more than a hundred years before the practitioners’ “scientific aspirations changed the term to *economics* (with the “s” representing *science*)” (*ibid, italics added*). In 1871, it was Prof. Jevons of University College of London who hoped that “Economics will become the recognized name of a *science*: such as Newtonian *physics* (Schlefer, 2012a, p. 75).

### 25. Adam Smith Rejected the Idea of Mercantilism

*Mercantilism* is an economic theory that prevailed in Europe during the Renaissance and the *early* period of the Industrial Revolution. Mercantilists advocated *exporting* of goods to acquire *gold*, based on the belief that this would make their economies *richer* and more powerful (Stiglitz, 2019, p. 8).

However, Adam Smith *rejected* the idea of mercantilism. He believed that the wealth of a nation was *not* determined by the amount of gold and silver in the country's coffers, but rather by the *value* of all the goods its *workers* produced for the consumption of its people (Stiglitz, *ibid*; Reich in Smith, 2000, pp. xv-xx).

He further added that the wealth of a nation *grows* because of “the skill, dexterity, and judgment with which its *labour* is applied” (Reich, *ibid*; *italics* added).

## 26. Smith Against Monopolies and Restraint of Trade

Smith was against powerful business interests to “intimidate the legislature” to interfere in commerce for their own benefit (Reich, *ibid*).

While Smith was well cognizant of the dangers of firms colluding together to raise prices, he was also quite aware of the dangers of employers getting together to *suppress* wages (Stiglitz, *ibid*, p. 66).

## 27. Smith Against Business Regulation

Smith was *against* most economic constraints, such as: “tariffs, bounties, quotas, price controls, workers in league to raise wages, employers conniving to fix pay, monopolies, cartels, royal charters, guilds, apprenticeships, indentures, and of-course slavery” (O'Rourke, 2007).

Smith even *opposed* licensing doctors on the belief that licenses were more likely to legitimize quacks (*ibid*).

O'Rourke (*ibid*) points out that *removal* of every market restraint can lead to serious *negative* consequences:

- It is due to the *absence* of government regulation that allowed *top* managers at companies like Enron, WorldCom, and Tyco to cheat investors and embezzle millions.
- If there are *no* restrictions on sale of hazardous substances, *young* people might smoke, drink, and even use *drugs*.
- Without the *licensing* of medical practitioners, “chiropractors, osteopaths, and purveyors of aromatherapy” could have a field day.
- If we did *not* have labor unions, “thirty thousand people would still be wage *slaves* at General Motors, their daily lives filled with mindless *drudgery*.”

## 28. Adam Smith Against Corporations

Most businesses during Adam Smith's time were *small*. Smith believed that joint-stock companies would *not* amount to much. He argued that the directors or managers are *not* expected to watch over *other* people's money “with the same anxious vigilance with which [they would] watch over their *own*.” “*Negligence* and profusion, therefore, must prevail...in the management of the affairs of such a company” (*Forbes*: Note 10; *italics* added).

In 1932 Berle and Means (1968) declared that the corporate revolution has *altered* the traditional logic of property and profits. So, they point out—"with evident glee"—that while Adam Smith had predicted "that the corporate form must *fail*," in reality what happened was just the *opposite*: it had brought un-paralleled *prosperity* (McCraw, 1990).

Smith knew that in order to realize the full benefits of specialization, the market must be sufficiently *large*. He was fully *aware* that the corporate form of business would be ideally suited for this purpose: because of its ability to raise *large* amounts of money for capital-intensive undertakings (*Forbes*, Note 10).

## 29. Berle and Means' Stakeholder Theory of the Corporation

In 1932 Berle and Means first published their book *The Modern Corporation and Private Property* (1968). They documented *two powerful* movements: (1) "The growing *concentration* of industry and, (2) The *separation* of ownership and control (McCraw, 1990; Datta, 2021a).

Berle and Means contended that industry has become *concentrated*; that ownership has been *separated* from control. They asserted that the American corporation has "*ceased* to be a private business device," and has become a "major *social institution*" (*ibid*, *italics added*).

These two trends severely *undercut* Adam Smith's--the patron saint of *free* markets--precept of the *invisible hand* that governed, as if by *magic*, the workings of a market populated by *small* owners—proprietorship or partnerships--during Adam Smith's time (*Forbes*, Note 10; Baker, 2015).

Berle and Means (*ibid*) further point out that the traditional "owners"--the nineteenth century *entrepreneurs*--had been *displaced* by a faceless horde of *investors*: who had "exchanged control for *liquidity*," and who were concerned *only* with *short-term* profit (McCraw, 1990; Datta, 2021a, *italics added*).

They reiterate that the corporate revolution had altered the traditional logic of property and profits.

Berle and Means, therefore, asserted that the claims of shareholders' ownership, their *passive* property rights, and the claims of management control must *yield* before the larger interests of *society*. As such, they advocated a *pluralistic* view of the large *publicly-owned* corporation in which top management is charged with *balancing* a variety of claims of various stakeholders in the community (McCraw, 1990; Datta, 2021a, *italics added*).

## Part VIII. Adam Smith: Consumption Sole Purpose of All Production

### 30. Adam Smith: "Consumption is the Sole End and Purpose of all Production"

Prof. Michael Baker (2015) (Note 5) states that since the dawn of civilization *scarcity* has been a matter of main concern for humanity that remains so even today. And that is why the notion of *scarce* resources is *central* to the field of economics.

Nevertheless, O'Rourke (2007; also, Baker, 2015) points out how Adam Smith *ignored* this profound insight: that "*consumption* is the *sole end* and purpose of all *production*" (*italics added*).

### 31. Smith's Consumption Edict was a License for Excessive Consumption

O'Rourke (2013) argues that what Smith meant by "consumption" is *not* what we think of consumption today. "By consumption what he really meant was to make something that is *useful*." "He was *not* thinking about buying a whole mess of t-shirts from a shady factory in Bangladesh, or consumer electronics. The word had a *different* nuance at that time" (*italics added*).

Ironically, however, as O'Rourke (Ryssdal, 2013) points out, we have now come "a long way from fulfilling a *need*, and into the territory of creating *wants*" (*italics added*).

O'Rourke's (*ibid*) idea, as mentioned above, is that what Smith meant about consumption was producing something that is *useful*. The question is *how* do we *interpret* the meaning of what is "useful?"

We submit that, like beauty, the meaning of this terms lies, so to speak, in the "eyes of the beholder." A more precise choice would be *physiological* needs that are at the *bottom* of Maslow's hierarchy of needs that cover a wide spectrum of *basic* needs: food, water, clothing, shelter, and warmth (Datta, 2010). A more *practical* way to characterize such needs can be called *survival* needs (Datta, 2011).

Clearly, if ordinary consumers are faced with the question of meeting their *basic* or *survival* needs, do they need a *proclamation* from a famous moral philosopher to exhort them to do something upon which their very *survival* depends?

The obvious answer is a definite *no*.

Smith's explanation of the *paradox* of the interplay between supply and demand, is an *important* scientific contribution to society. The question is then why did Smith *cross* that line, and enter the realm of *metaphysics* with his consumption proclamation?

According to Alan Watts, a Zen Buddhism scholar—and a practicing Buddhist--Western society is dominated by an implicit faith in *perpetual progress*: a concept rooted in Judeo-Christian theology--(Section 18). However, he suggests that this is a *materialistic* ideology that seems to confuse *happiness* with more and more *material goods* (Watts, 1991; Datta, 2022a).

### 32. The Buddhist View of Consumption in a World of Limited Resources

E. F. Schumacher (1973, p. 58), the author of *Small Is Beautiful*, points out that modern economics, following Adam Smith, regards consumption to be the *sole* end and purpose of production: a view that is in stark *contrast* to the Buddhist perspective. While the *latter* tries to maximize *human* satisfaction by an optimal pattern of *consumption*, the former tries to *maximize* consumption by an optimal pattern of *production*.

Schumacher then argues that, obviously, the effort required to sustain a way of life that seeks to achieve an *optimal* level of *consumption* is likely to be (much) *smaller* than the effort necessary to sustain a *maximum* pattern of consumption (*ibid*).

A major benefit of the optimal pattern of consumption is that it permits people to live *without* great pressure and stress, and to fulfil the primary injunction of Buddhist teaching: "Cease to do evil; try to

do good” (*ibid*).

Schumacher (1973, p. 33) quotes *Gandhi* about some important words of wisdom: that it is more than likely that the earth “provides *enough* to satisfy every man’s *need*, but *not* for every man’s *greed*” (*italics* added).

So, Baker (2015) reminds us that according to “economic theory, the *additional* satisfaction gained from the acquisition of another, *marginal*, unit of input or consumption *declines*” (*italics* added).

Since we live in a world with *limited* resources, “people satisfying their needs by a *modest* use of resources are obviously *less* likely to be at each other’s throats, than people depending upon a *high* rate of use” (Schumacher, *ibid*, pp. 58-59; *italics* added).

### 33. Failure to Distinguish Between Income and Capital

Schumacher (1973, p. 14) argues that the *illusion* of unlimited powers, engendered by the amazing scientific and technological progress, has produced the impression that we have solved the problems of production. The latter illusion is based on the *failure to discriminate* between income and capital where this matters the *most*. That means, “a *failure* to account properly for *irreplaceable* capital represented by *natural* resources that we take for granted—earth, air, energy, and water” (Baker, 2015; *italics* added).

Schumacher (1973, p. 15) suggests that one “reason for overlooking this vital fact is that we are *estranged* from reality and inclined to treat as *valueless* everything that we have *not* made ourselves” (*italics* added; Baker, 2015).

## Part IX. Adam Smith’s Theory of Laissez-faire Economics

### 34. Adam Smith and the “Invisible Hand”

Robert Reich (Note 6), in the *Introduction* to the *Wealth of Nations* (Smith, 2000, pp. xv-xx) quotes Smith in one of the most *often* cited passages in the history of economics. Smith says:

- “It is *not* benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their *own* interest. We address ourselves *not*, to their humanity, but to their *self-love*...” (*italics* added; Lutz and Lux, 1988, p. 36).

But the question is how can self-interested behavior lead to what is good for *all*? According to Reich, in referring to the *invisible hand*, Smith is talking about “an *unfettered* market propelled both by competition among self-interested sellers, *and* by buyers seeking the best deal for themselves...*Unimpeded*, the *invisible hand* will allocate goods *efficiently*” (*ibid*; *italics* added).

According to Google, the term “invisible hand” first appeared in Adam Smith’s famous work, *The Wealth of Nations*, to describe how *free* markets can incentivize individuals, acting in their own self-interest, to produce what is societally *necessary* (Note 7, *italics* added).

It is clear that Adam Smith, in his above statement, puts *no* limits on consumption—as Schumacher (1973) has mentioned in Section 30--and left the door of overconsumption *wide open*.

Robert Reich (*ibid*) suggests that when Smith wrote his book, the old order of the rights of the *church* and the *monarch*, was giving way to the *radical* idea that societies existed for the *people* who populated them. This was the age of the Enlightenment, and its leading thinkers believed that the public would naturally attempt to make their lives economically *better* over time.

Thus, this was the time when ordinary people were beginning to have some *control* over the pursuit of their self-interest (O'Rourke, 2007).

Smith said that bettering the economic condition of one does *not* worsen the condition of another. This is because wealth is *not* a pizza, and if "I have too many slices, you don't have to eat the Domino's box". In other words, wealth-creation is *not* a zero-sum game (O'Rourke, 2007).

Smith argued that the "*annual* labour of every nation is the *fund* which originally supplies it with all the necessities and conveniences of life it annually consumes." So, O'Rourke points out that—thereby—in one stroke, Smith created the concept of *gross domestic product* (*ibid*, *italics* added).

In his book *Everything for sale* (1999, p. 13), Robert Kuttner says that an *important* contribution of Smith is explaining the *paradox* of the interplay between supply and demand, as to why water--necessary for life—is so *cheap*, while diamonds, a non-essential luxury, are *expensive*.

The *price* mechanism plays another important role. Price changes not only *facilitate* shifting tastes and variations in supply, but somehow *prevent* cutthroat competition, thus allowing each seller to earn a *normal* profit (*ibid*).

### 35. Smith's Three Basic Principles for Economic Progress

Smith argues that economic progress depends on *three* factors (Reich, *ibid*; O'Rourke, *ibid*):

- Pursuit of self-interest
- Specialization or division of labor
- Freedom of trade

The principle of *self-interest* comes from the Protestant Reformation movement that began in the sixteenth century (Section 23).

The concept of *specialization* is the legacy of the Scientific Revolution, and is the *first* among five principles. It is the process of *fragmentation* that is central to the *efficiency* of division of labor (Section 8).

Smith used the example of a *pin* factory to illustrate the idea of specialization in which a worker does the *same* operation *day in and day out* (Reich, *ibid*).

Nevertheless, in order to realize the full benefits of specialization, Smith said that the market must be sufficiently *large* (*ibid*; Stiglitz, 2019, p. 9).

## Part X: There Is No “Invisible Hand”

### 36. The “Invisible Hand” is a Myth

Jonathan Schlefer (2012b), author of *The Assumptions Economists Make* (2012a), states that “one of the best-kept *secrets* in economics is that there is *no* case for the invisible hand” (*italics added*). Economic theorists, after more than a *century* of trying to prove the opposite, finally came to a conclusion in the 1970s. And that was that there is *no* reason to believe markets are led, *as if* by an “invisible hand,” to an optimal: or any equilibrium at all.

Schlefer (*ibid*) says that Adam Smith talked about the “invisible hand” in an *obscure* passage in his book, *The Wealth of Nations* (1776). However, he mentioned it just *once* in the book. In *contrast*, he repeatedly cited the idea of “*natural liberty*.” That means that every man--as long as he does *not* violate the laws of justice--is free to pursue his own interest (Note 8). However, he described several situations where “natural liberty” does *not* work in real life. For example (Schlefer, 2012b):

- If banks charge interest that is much more than 5%, they will be lending only to “prodigals and projectors” precipitating *bubbles* and *crashes*.
- In a *famous* quote, he said that people “of the same trade *seldom* meet together, even for merriment and diversion, but the conversation *ends* in conspiracy *against* the public, or in some diversion to *raise* prices” (Reich, *ibid*; *italics added*; Stiglitz, 2019, p. 51).
- Pursuing Smith’s principle of division of labor, the “man whose whole life is spent in performing a few *simple* operations...generally becomes as *stupid* and *ignorant* as it is possible for a human creature to become” (Reich, *ibid*; *italics added*; O’Rourke, *ibid*).

So, Smith pointed out that the abilities of the laborer would *decline* “unless the *government* takes some pains to prevent it” including the provision of *education* (Reich, *ibid*; *italics added*).

Joseph Stiglitz, the Nobel Prize-winning economist, suggests that the reason the invisible hand is frequently invisible is because it is often *not* there (Note 9):

- Markets do *not* work well when there are *externalities*. That means where the actions of one individual have *negative* impacts on others for which the individual does *not* pay; or for *benefits* to others for which the individual is *not* compensated.
- Markets, left to themselves, produce *too much* pollution.
- Markets, when left alone, produce *too little* basic research.
- The U.S, government was responsible for financing most of the important *scientific* breakthroughs, including the internet, the first telegraph line, and many bio-tech advances.
- Government plays a key role in regulating *banking* and *securities* markets.
- At a minimum government is necessary to *enforce* contracts and property rights.

At the time of Adam Smith, most businesses were *small* entrepreneurs--proprietorships and partnerships (Berle & Means, 1968, pp. vii-xxvii; Datta, 2021a; Baker, 2015; *Forbes*, Note 10).

Baker (*ibid*) reports that *before* the Industrial Revolution, most exchange consisted of a *close* relationship between the buyer and the seller. Then, exchange was primarily *negotiated* either in the

market, or on the premises of the producer or the merchant. However, when the purchase was made in the *open* market, it triggered the English Common law that was based on the principle of *caveat emptor*: “let the buyer beware.”

Lutz and Lux (1988, pp. 205, 314-315), too, make a similar point. During Smith’s time, government was largely under the control of land-holding *aristocracy*. During those days people *knew* who their neighbors were. They knew the people with whom they exchanged goods. People knew and cared for each other. When traditional markets began to replace barter, people still had a sense of community. So, when one bought bread from a baker, the exchange was *not* just economic, but also *social*.

It is this kind of environment--a *close* relationship between *small* buyers and sellers—that is ideally suitable for the “invisible hand” to work, as if, by magic. This is because “*selfish* self-interest” is *replaced* by “*mutual* self-interest” (Baker, 2015, *italics* added).

However, the Industrial Revolution *transformed* this relationship. *Mass production* gave rise to the creation of *mass* markets, which, in turn, led to a physical and psychological *separation* between buyer and seller (Baker, 2015).

## **Part XI: Adam Smith’s Transformation in *Wealth of Nations***

### **37. From “*Mutual Self-Interest*” to “*Selfish Self-interest*”**

Lutz and Lux (*ibid*, pp. 33-34) have painted a vivid picture of the business *environment* during the time of Adam Smith. They report that *overseas trade* in exotic spices, silk, and ivory generated *huge* profits in England in the sixteenth century. This economic climate led to, what is known as the *enclosure movement*. As a result, large areas of the Commons—*land* that anyone could use for farming, or raising and grazing animals—were *enclosed* by powerful lords and nobles, to be used *privately* for commercial purposes: in particular for raising *sheep*, whose *wool* had found a profitable market. The peasants were *displaced* from this increasingly valuable land, and eventually became the *mobile* labor force for the new factory system.

Thus, *wealth* acquisition had now become the new passion, “and the whole tone and temper of society underwent *profound* changes” whose net result is still being debated today (*ibid*, p. 34, *italics* added).

A key figure in this debate was the Dutch physician, Bernard de Mandeville. Mandeville, in the analogy of the *Fable of the Bees*, says, amazingly, that various *vices*—pride, indulgence, avarice—are in reality the *cause* of economic development (*ibid*).

The book that established Smith’s professional *reputation* was “*The Theory of Moral Sentiments*” published in 1759 (Lutz and Lux, 1988, p. 35; Knee, 2017). In the opening line Smith says:

- “Howsoever selfish 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” (*italics* added; also, Baker, 2015).

Toward the end of the book, Smith says that all traditional systems of morality depend upon the belief that there is a real and essential *difference* between vice and virtue, “to encourage the *best* and most laudable habits of the human mind.” In *contrast*, for a *licentious* system, such as that of Mandeville, such a distinction is *false* (Lutz and Lux, 1988, p. 36, *italics added*).

Lutz and Lux (p. 36) then point out that, following an emphatic *rejection* of Mandeville’s ideas, Smith—*surprisingly*--then takes a *U turn*:

- “But how destructive soever this system may appear, it could *never* have imposed upon so *great* a number of persons nor have occasioned so general an alarm among those who are the friends of better principles had it not in some respect bordered on the *truth*” (*italics added*).

Lutz and Lux (1988, p. 36) then suggest that, *ironically*, the above statement by Smith--at least in his *Moral Sentiments* book--“is just a bit of *sophistry*” by which he *accepts* Mandeville dictum that “*private vices are public benefits*” (*italics added*):

Continuing, Lutz and Lux (*ibid*), then remind us of this *monumental* shift. In 1776, seventeen years later, Smith publishes his *Wealth of Nations*, and the “book goes down in history as the *origin* of the economic theory of *self-interest*” (*italics added*).

In one of the most *famous* passages often considered as the *keynote* of *Wealth of Nations*, as we have reported in Section 34, this is what Smith has said (Lutz and Lux, 1988, p. 34, *italics added*):

- “It is *not* benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their *own* interest. We, address ourselves *not*, to their humanity, but to their *self-love*, but *never* to talk to them of our own necessities, but of *their* advantages. Nobody, but a beggar chooses to depend chiefly upon the benevolence of his fellow citizens.”

### 38. The End Justifies the Means in Pursuit of Wealth

As mentioned above, how could Smith, a *moral* philosopher, make a 180-degree turn to accept Mandeville’s dictum that “*private vices are public benefits*” (Section 37).

The most *profound* ideology of Adam Smith is his proclamation that “*consumption* is the *sole end* and purpose of all production” with *no* limitations at all (Section 30).

As mentioned in Section 34, an *important* scientific contribution of Smith is explaining the *paradox* of the interplay between supply and demand. But why did he then *cross* that line, and enter the domain of *metaphysics* with his consumption proclamation (Section 30)?

Schlefer (2012a, p. 45) makes an important observation. He says that Adam Smith favored consumption *over* production. In other words, this is a priority that reflected a quest for *wealth*.

As Schumacher reminds us that an “attitude to life which seeks fulfillment in the single-minded pursuit of *wealth*--in short, *materialism*--does *not* fit into this world, because it contains within itself *no limiting* principle, while the environment in which it is placed is strictly *limited* (*ibid*, pp. 2.9-30; *italics added*; Baker, 2015).

As we have indicated in Section 23, the modern capitalist system has grown out of the Protestant Reformation movement of the sixteenth century, especially the *Calvinistic* theology.

Under the Calvinistic theology, the pursuit of *wealth*--once regarded as *hazardous* to the soul--acquired a new *sanctity*. According to this new religious concept, pursuit of *wealth* was not merely an *advantage* but a *moral duty*. While, earlier the motive of economic *self-interest* was considered a *frailty*, it was now elevated into an ornament of the *spirit*, and canonized as a *virtue*.

In sharp *contrast*, Stephen Rockefeller says that the emphasis in the teachings of Jesus' is on being *good* as opposed to having goods (Rockefeller & Elder, 1992, p. 159).

So, it should not come as too much of a surprise, that a *moral* philosopher Smith, dramatically changed his stance, and made a *180-degree* turn to accept the Mandeville dictum that *private* vices are *public* benefits.

### 39. Smith's "Self-interest" and "Invisible Hand" is like Newton's Gravitation System

Edward Cannan--editor and well-known economist--in his introduction to the Modern Library Edition of *Wealth of Nations* (1994), reports that it was Mandeville who *first* made Smith realize the importance of *selfish* self-interest (Lutz and Lux, 1988, p. 36).

In view of the above revelation, Lutz and Lux (1988, p. 36) wonder how Adam Smith, who started as a *moral* philosopher, supporting *traditional* values—including the concept of *virtue* itself—ends up advocating the new doctrine of *selfish* self-interest?

They suggest that there could be many reasons for this *amazing* change in Adam Smith's thinking. However, the most important source of this tremendous *shift* was the intellectual climate in Britain, that came about from the monumental success of Sir Isaac Newton's *celestial mechanics* (*ibid*).

In one of his essays, Adam Smith describes Newton's innovation as "the *greatest* discovery ever made by man (*italics* added).

Lutz and Lux (1988, p. 37) argue that even though Smith was *not* making a direct comparison with Newton's innovation, yet, he advanced his *joint* concept of: self-interest *and* "invisible hand", in such a way, that it could be to *economics* what gravitation was to *physics*.

## Part XII. Adam Smith's Objective: A Static Economic Theory that is Elegant

### 40. Adam Smith Ignored the Industrial Revolution

Charles Kindleberger (1990) suggests that the exact timing of the Industrial Revolution has not been fully established. Nevertheless, a reasonable time period is 1760 to 1792. Although the *first* edition of the *Wealth of Nations* was published in 1776, the new Chapter VII of Book IV, and the new material of Chapter I, Book V were published in the *third* edition in 1783.

The lighting of the *first* furnace at the Carron iron works in 1760 may be considered to be the *beginning* of the Industrial Revolution in Scotland (Kindleberger, 1990).

The number of patents rose from a dozen a year before 1760, to 31 in 1766, and 36 in 1769 (*ibid*).

The first major innovation of the Industrial Revolution was invention of the *spinning jenny* in 1764; followed in 1769 by Richard Arkwright's *water frame* that was powered by a *water-wheel*. In 1779, Samuel Crompton introduced his invention: the *mule*. This was a *capstone* of the earlier inventions: it *combined* the elements of the *jenny* with those of the *water frame*. The *mule* was *first* powered by water, but *later* mostly by a *steam engine*, after James Watt—who was an acquaintance of Adam Smith—patented its technology in 1769 (Datta, 2021b).

All these innovations occurred *before* the second edition of *Wealth of Nations* in 1783.

Kindleberger (*ibid*) argues that “Adam Smith *could* have known, or *should* have known, about the Industrial Revolution” (*italics added*).

How could Smith then have ignored these *transforming* innovations, especially, Watt's steam engine? In particular, when Smith was acquainted with Watt (Kindleberger, *ibid*):

- In the *Wealth of Nations*, there is literally *no* mention of *cotton textiles*, and only *one* reference to the English industrial city of Manchester (*ibid*).
- At that time Manchester was becoming the *manufacturing* center of cotton *yarn* and *cloth*—and which, a hundred years later, had become the *most* industrialized city in the world (Datta, 2021b).
- There is also no reference to making *pottery*, or to new methods of producing *beer* (Kindleberger, *ibid*).
- Smith does *not* seem to have realized the importance of *infrastructure* in the economic *growth* of a nation.
- Smith covered canals under *public works*, but used the canal of Languedoc, completed as far back as 1681. Ironically, he *ignored* the Bridgewater canal which was completed in 1761. It is the commissioning of this canal that triggered a *rash* of canal building and improvement *mania* of the 1790s (*ibid*).
- Smith also failed to mention *turnpikes* even when travel times were *falling* fast. For example, the first travel coach from Birmingham to London took 2.5 *days* in 1731, but only 19 *hours* in 1776 (*ibid*).
- Abraham Darby, British ironmaster, first successfully *smelted* iron ore with *coke* in 1709. The ensuing availability of inexpensive *iron* was one of the factors leading to the Industrial Revolution (Note 11).
- Kindleberger (*ibid*) believes that Smith did not have a full appreciation of Darby's contribution of substituting *coke*—which is made from *coal*--for charcoal which was produced by burning *wood*.
- Kindleberger (1990) argues that Smith's analysis was *static*. One example is that manufacturers using coal were *limited* mainly to the coal-mines regions in Britain. Although Smith appreciated the high cost of *delivered* price of coal, yet he *failed* to realize that the high price of coal *away* from the mines provided a strong *incentive* for manufacturers to *cut down*

transportation costs of coal, and seek ways to *improve* the efficiency in coal consumption through *innovation*, such as the Watt engine (Section 37).

- Kindleberger (*ibid*) suggests one reason for Smith's *lack* of understanding of the Industrial Revolution is that Adam Smith was a *literary* economist, who drew his examples from *books*, *not* from the *real* world of business around him.
- Much of what he wrote was "*derivative*"—that means it was *not* original.
- Most of the books Smith relied upon in his research were fairly *old*, published in the first quarter of the eighteenth century.

#### 41. Smith's Economic Theory is Static that Disregards Innovation

Adam Smith's laissez-faire economic theory rested on three basic principles: (1) Pursuit of self-interest, (2) Specialization or division of labor, and (3) Freedom of trade (Section 35).

The heart of his economic theory is the principle of *specialization* that goes back to the Scientific Revolution (Section 8). As Kindleberger (1990) says in Section 40, Smith's analysis was *static*. His whole focus was on how a business can perform production operations with the *most* efficient use of labor to *minimize* cost, employing *existing* technology.

However, in the *Wealth of Nations* (Section 34) he was he was *not* focusing on industrial businesses, but rather on small businesses for *consumers*: butcher, baker, and brewer. In addition, there was a *tiny* pin factory, which had just *ten* employees (Note 12).

As we have already mentioned, Adam Smith was a moral philosopher, and a *literary* economist. One reason for his *lack* of understanding of the Industrial Revolution is that Adam Smith drew his examples from *books*, *not* from the real world of business around him. Much of what he wrote was *not* original. In addition, most of the books Smith relied upon in his research were fairly *old*.

So, *why* did Adam Smith ignore the Industrial Revolution?

Kindleberger (1990) suggests, that Smith's technique of writing the *Wealth of Nations* with a closely reasoned argument, that made a revision of the book *difficult*.

However, we have a *different* perspective.

We think that there were *two* reasons behind this:

First, as noted above, Kindleberger has stated that Adam Smith was not very knowledgeable about the British industrial world. So, based on this idea, it is not unreasonable to conclude, that it is very likely that he would *not* have been able to do justice to his coverage of the Industrial Revolution, even if he wanted to.

Second, his static theory could *not* handle innovation.

So, Adam Smith is very likely to have been looking for an *elegant* theory that everyone could easily understand. And that's how he must have come up with his *historic* idea: the ingenious duo of "*selfish* self-interest" coupled with "invisible hand."

Although Smith was *not* making a direct comparison with Newton's innovation, yet, he advanced his *joint* concept above in such a way, that it could be to *economics* what gravitation was to *physics*.

## Conclusion

A *central* tenet of the Judeo-Christian theology has been *dualism*—that man is *separate* from nature—and *anthropocentrism*: that man is the *master* and the *center* of this universe, with a license to *exploit* nature.

Historian Lynn White wanted to understand *why* the Western civilization had *exploited* nature so much that its own *quality* of life—even its survival—was now *at stake*. White concluded that the answer is: the *Judeo-Christian* tradition.

The environmental movement began in the early *1960s*, with far-reaching *changes* in American values and attitudes that were powering a growing interest in *wilderness* and its *preservation*. Now contemporary scholars are reimagining the dynamic relationship between the *natural* world and the *built* environment.

The victory of Christianity over paganism was the *greatest* psychic revolution in the history of the Western culture.

By *destroying* pagan animism, Christianity made it possible to *exploit* nature in a mood of *indifference* to the feelings of natural objects. Severed from the *human* community and its *ethical* protection, nature was fully exposed to human *greed*.

Aristotle's scientific philosophy of nature—*animate* and *alive*—*dominated* Western thought for two thousand years after his death. However, a *radical* change occurred in scientific thought during the 16<sup>th</sup> and 17<sup>th</sup> centuries. The notion of an *organic* and spiritual universe was replaced by that of the world as a *machine*, and the word machine became a *dominant* metaphor of the modern era. This dramatic change was brought about by the new *discoveries* in physics, astronomy, and mathematics known as the *Scientific Revolution*, and associated with the names of Copernicus, Galileo, Descartes, Bacon and Newton.

Descartes' philosophy was to *objectify* the world, to turn everything into an object or thing to be *manipulated* and *controlled*.

To Descartes goes the credit of inventing the method of *analytic* thinking: the principal of *reductionism*: *breaking* a complex system into *parts*. So, if you understand the *parts*, you understand the *whole*. In other words, the *whole* is equal to the *sum* of its *parts*.

Descartes divided the universe into two distinct realms: *mind* and *matter*. *Surprisingly*, he characterized *nature*—even *living* organisms—as a perfect *machine* governed by *precise* mathematical laws. In addition, he placed a special emphasis on *certainty* and immunity from doubt in scientific research.

There are *five* major theories or principles—specialization, reductionism, objectivity, rationalism, and materialism—that form the foundation of this mechanistic ideology.

Francis Bacon, who was not a scientist but a lawyer, was one of the early prophets of the *power* and

promise of science. He triumphantly proclaimed that the new science would soon make ‘Nature, with all her children’ the ‘*slave*’ of humankind.

It was around 1850, that Western Europe and North America arranged a *marriage* between science and technology that signified the Baconian creed of *power* over nature. Its *acceptance* as a *normal* pattern of action may mark the *greatest* event in human history since the invention of agriculture.

With the arrival of *quantum* mechanics early during the last century, the physicists *abandoned* the idea of identifying matter with “things” or “solid objects.” Instead, they adopted a new *holistic* view based on the notion of *relationships*.

Eastern religions--e.g., Hinduism, Buddhism, Taoism, and Zen Buddhism—totally *reject* the dualism and anthropocentrism of Christianity. Eastern religions assumed the ultimate *oneness* of all of nature’s components. By advocating the *submersion* of the *human self* in a larger *organic whole*, they cleared the intellectual way for *environmental ethics*.

Perhaps the most *profound* legacy of the *Scientific Revolution* is the principle of *reductionism* that the *whole is equal* to the *sum* of its *parts*. This approach encourages an *atomistic* and *disintegrated* view of nature. But nature is through and through *relational*, and interference at *one* point can have *interminable* and *unforeseeable* results on the *other*.

As a direct result of this reductionist ideology, we have the Faustian bargain of *Hydrogen* bombs that pose an *existential* threat to the universe.

Credit Default Swaps provide another example of this reductionist ideology, and *arrogance* toward the global financial markets. Warren Buffet presciently called them financial weapons of *mass destruction*. And they were the *primary* reason for the *meltdown* of the global financial markets in 2008: the *worst* since the Great Depression.

*Individualism* is first on the list of American cultural heritage. But it has *three* facets. One is the idea of individual choice, responsibility, and achievement. Second is an unspoken faith in perpetual progress. Yet, this idea seems to confuse happiness with more *material* goods. Third, the Western mechanistic ideology has *degraded* the individual by refusing to recognize the importance of those natural qualities that make humankind *human*.

Next is the “Bootstrap philosophy.” Initially, the expression “pull oneself *up* by the bootstraps” was used mockingly to describe an *impossible* act. Yet, this phrase has become part of American *mythology*, and the nation’s attitude toward helping those in society that have been left *behind*; and we *lecture* them to *lift* themselves up by their bootstraps.

This view is based on the *erroneous* belief, that historically Americans prospered primarily through their rugged individualism. But, the pioneers went west because of the government program that gave away *ten* percent of American *land* as homesteads. And about *one fourth* of Americans *owe* part of their family wealth to the homestead law.

Also, there are many other *public* programs that became a *reality* because of the government:

- American investment in *free* high schools, state colleges and universities.

- The U.S. transcontinental railroad, that connected the eastern U.S with the Pacific coast built over *public* lands provided by extensive U.S. *land grants*.
- The G.I. Bill aimed at the returning WWII soldiers (veterans) that *opened* the door of higher education to the American working class as *never* before.
- Franklin D. Roosevelt signed the law that enabled the central government to build *dams* along the Tennessee River that controlled flooding, and generated low-cost *hydroelectric* power for *rural* areas.
- President Eisenhower signed the law that created the “National System of Interstate and Defense Highways.”

From the beginnings of Adam Smith’s *laissez-faire* economics, the attitude of mainstream economists was not only *not* sympathetic to government, but repeatedly called for *limiting* government’s role in social welfare, trade, and industry. This *anti-government* attitude has also been fostered by *free-market* enthusiasts. For example, President Reagan said that government is *not* the solution to our problem; government *is* the problem.

The *laissez-faire* ideologues promise an economic Utopia that calls for: “Privatization, deregulation, downsizing, shrinking entitlements, and lower taxes.”

In 1970 Nobel laureate Milton Friedman declared that the *social* responsibility of a business is “to increase its *profits* and to make as much money as possible. And it is this *doctrine* that has *guided* businesses and economists for the last *fifty* years. This is when economists and business leaders in America embarked on a path toward *unfettered* capitalism.

Encouraged by the Friedman doctrine, American CEOs set themselves on a journey toward *profit* maximization—or its counterpart: maximizing *shareholder* value. This new mind-set encouraged *risk aversion* and *short-run* behavior: an accountant’s *short cut* to profits, with a focus on *cost reduction* rather than *long-term* concerns about innovation, quality, and customer satisfaction. And it was this *momentous* philosophical shift—from substance to *shadow*—that has contributed so much to the American industrial *decline*.

Economic *inequality* in America has been going up persistently since 1974, squeezing the middle class. America’s income inequality has now *widened* so much that it rivals the *highest* level recorded in 1928 that led to the Great Depression of 1929.

A relentless drive toward *deregulation* led to a massive *meltdown* of the financial markets in 2008: the *worst* financial disaster since the Great Depression of 1929.

The modern capitalist system has grown out of the Protestant Reformation movement that began in the sixteenth century, especially the *Calvinistic* theology. This new religious ideology professed that the pursuit of *wealth* was not merely an *advantage*, but a moral *duty*.

The result of this shift was a profound *change* in moral standards. While, earlier the motive of economic *self-interest* was considered a *frailty*, it was now elevated into an ornament of the *spirit*, and canonized as a *virtue*.

Adam Smith was an 18th-century moral philosopher in the Scottish University of Glasgow, and is considered the *father* of modern economics.

The most momentous idea of Adam Smith is his proclamation that “*consumption* is the *sole end* and purpose of all *production*.” Yet, he put *no* limits on consumption and left the door of overconsumption *wide open*.

Smith’s explanation of the *paradox* of the interplay between supply and demand, is an *important* scientific contribution to society. But, why then did he *cross* that line, and enter the domain of *metaphysics* with his consumption proclamation?

Metaphysics is an idea or doctrine that is *outside* of human sense perception (Note 13). In other words, a concept that does *not* belong to the realm of science.

So, we have now come a long way from fulfilling a *need*, and into the territory of creating *wants*. This is because Smith’s edict was a *license* for excessive consumption.

Another flaw in Smith’s thinking was the *failure* to distinguish between income and capital. That means failure to account properly for *irreplaceable* capital represented by *natural* resources that we take for granted—earth, air, energy, and water.

Smith says that in an *unfettered* market--propelled by competition among self-interested sellers and buyers--the *invisible hand* will then allocate goods *efficiently*.

At the time of Adam Smith, most businesses were *small* entrepreneurs. *Before* the Industrial Revolution, most exchange consisted of a *close* relationship between the buyer and the seller. And the exchange was *not* just economic, but also *social*.

However, the Industrial Revolution *transformed* this relationship. *Mass production* gave rise to the creation of *mass* markets, which, in turn, led to a physical and psychological *separation* between buyer and seller.

One of the best-kept *secrets* in economics is that there is *no* case for the “invisible hand” because it is often *not* there:

- Markets do *not* work well when there are *externalities*.
- Markets, left to themselves, produce too much *pollution*.
- Markets, when left alone, produce too little *basic research*.
- The U.S, government was responsible for financing most of the important *scientific* breakthroughs.
- Government plays a key role in regulating *banking* and *securities* markets.
- At a minimum government is necessary to *enforce* contracts and property rights.

In 1932, Berle and Means contended that industry had become *concentrated*; that ownership has been *separated* from control. They asserted that the American corporation has *ceased* to be a private business device, and has become a major *social* institution.

These two trends severely *undercut* Adam Smith’s precept of the *invisible hand* that governed, as if by *magic*, the workings of a market populated by *small* owners. The nineteenth century *entrepreneurs* had

been *displaced* by a faceless horde of *investors*: who had exchanged control for *liquidity*, and who were concerned *only* with *short-term* profit.

Berle and Means point out that Adam Smith had predicted that the corporate form must *fail*. On the *contrary*, it had brought unparalleled *prosperity*.

An important part the history of Adam Smith, a *moral* philosopher--that is worth pointing out--is that he made a *180-degree* turn to accept the Mandeville's dictum that "vices are *public* benefits."

Finally, Adam Smith ignored the Industrial Revolution? But why?

First, his *static* theory could *not* handle innovation. Second, he was *not* very knowledgeable about the British industry. So, it is very likely that he would *not* have been able to do justice to his coverage of the Industrial Revolution, even if he tried.

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## Notes

Note 1. <https://en.wikipedia.org/wiki/Paganism>

Note 2. [https://en.wikipedia.org/wiki/First\\_transcontinental\\_railroad](https://en.wikipedia.org/wiki/First_transcontinental_railroad)

Note

3.

[https://www.google.com/search?q=google%3A+adam+smith+father+of+economics&ei=25dWY8LjD8zckPIP9Zu1kAQ&ved=0ahUKEwiCvZX1gPn6AhVMLkQIHfVNDUIQ4dUDCBA&uact=5&oq=google%3A+adam+smith+father+of+economics&gs\\_lcp=Cgnd3Mtd2l6EAMyBQghEKABMgUIIRCraJiICCEQFhAeEB0yCAghEBYQHhAdMggIIRAWEB4QHTIICCEQFhAeEB0yCAghEBYQHhAdOgUIABCiBD0eCCEQCKoECEEYAEoECEYYAFAAWIeXAWDboQFoAHABeACAA0BiAH4FpIBBjQuMTguMpgBAKABAcABAQ&scient=gws-wiz](https://www.google.com/search?q=google%3A+adam+smith+father+of+economics&ei=25dWY8LjD8zckPIP9Zu1kAQ&ved=0ahUKEwiCvZX1gPn6AhVMLkQIHfVNDUIQ4dUDCBA&uact=5&oq=google%3A+adam+smith+father+of+economics&gs_lcp=Cgnd3Mtd2l6EAMyBQghEKABMgUIIRCraJiICCEQFhAeEB0yCAghEBYQHhAdMggIIRAWEB4QHTIICCEQFhAeEB0yCAghEBYQHhAdOgUIABCiBD0eCCEQCKoECEEYAEoECEYYAFAAWIeXAWDboQFoAHABeACAA0BiAH4FpIBBjQuMTguMpgBAKABAcABAQ&scient=gws-wiz)

Note

4.

[https://www.google.com/search?q=did+adam+smith+believed+in+laissez+faire&ei=FutVY-DVHsKwqtsPqtOw2AU&oq=did+adam+smith+blive+in+laisez+faire&gs\\_lcp=Cgnd3Mtd2l6EAEYADIJCAAQgAQQDRAKMgUIABCGAzIFCAAQhgM6CggAEecQ1gQQsAM6BQgAEJECOGUIABCABDoGCAAAQxBxAeOgYIABAIEB46BwgAEIAEEA06BwguEIAEEA06CAgAEAcQHhAKOgQILhBDOgoILhCxAXDUAhBDOgcIABCxAXBDOgQIABBDOgUIIRCgAToICCEQFhAeEB06CAgAEAUQHhANOGYIABAEaE06BggAEBYQHjoICAAQFhAeEApKBahBGABKBAhGGABQyA9YnIYCYI6cAmgCcAF4AIABYqAIaEowkgEMMy4zOS40LTEuMC4xmAEaOAEByAEIwAEB&scient=gws-wiz](https://www.google.com/search?q=did+adam+smith+believed+in+laissez+faire&ei=FutVY-DVHsKwqtsPqtOw2AU&oq=did+adam+smith+blive+in+laisez+faire&gs_lcp=Cgnd3Mtd2l6EAEYADIJCAAQgAQQDRAKMgUIABCGAzIFCAAQhgM6CggAEecQ1gQQsAM6BQgAEJECOGUIABCABDoGCAAAQxBxAeOgYIABAIEB46BwgAEIAEEA06BwguEIAEEA06CAgAEAcQHhAKOgQILhBDOgoILhCxAXDUAhBDOgcIABCxAXBDOgQIABBDOgUIIRCgAToICCEQFhAeEB06CAgAEAUQHhANOGYIABAEaE06BggAEBYQHjoICAAQFhAeEApKBahBGABKBAhGGABQyA9YnIYCYI6cAmgCcAF4AIABYqAIaEowkgEMMy4zOS40LTEuMC4xmAEaOAEByAEIwAEB&scient=gws-wiz)

Note 5. Dept. of Marketing, University of Strathclyde, Glasgow, Scotland.

Note 6. Currently the Carmel P. Friesen Professor of Public Policy t the Goldman School of Public Policy at the University of California, Berkeley, CA.

Note

7.

[https://www.google.com/search?q=google+meaning+of+invisible+hand+by+adam+smith&ei=GJhWY\\_TLAAaTjkPIP4oGdmAI&ved=0ahUKEwj0t5KSgfn6AhWkMUQIHeJABYMQ4dUDCBA&oq=google+meaning+of+invisible+hand+by+adam+smith&gs\\_lcp=Cgnd3Mtd2l6EAwyBQghEKsCOgoIABBHENYEELADOGUIIRCgAToICCEQFhAeEB06EQguELEDEIMBEMcBENEDEJECOGUIABCRAjoECAAQQzoLCAAQgAQQsQMqgwE6CggAELEDEIMBEEM6BwgAELEDEEM6BAguEEM6CAgAEIAEELEDOg4IABCABBCxAXCDARDJAzoLCAAQsQMqgwEQkQI6CAgAELEDEJECOGUIABCABDoLCC4QgAQQsQMq5QQ6CAgAELEDEIMBOhAIABCABBCxAXCDARCxAXAKOgcIABCABBAAKOGolLhCABBDIBBAKOGUIABCGAzokCAAQgAQQRhD5AToGCAAQFhAeOggIABAWEb4QDzoKCCEQFhAeEA8QHUoECE0YAUoECEEYAEoECEYYAFCWDliZ\\_gFgxKECaARwAXgAgAGZAYgBgDySAQUyOS40MpgBAKABAcgBCMABAQ&scient=gws-wiz](https://www.google.com/search?q=google+meaning+of+invisible+hand+by+adam+smith&ei=GJhWY_TLAAaTjkPIP4oGdmAI&ved=0ahUKEwj0t5KSgfn6AhWkMUQIHeJABYMQ4dUDCBA&oq=google+meaning+of+invisible+hand+by+adam+smith&gs_lcp=Cgnd3Mtd2l6EAwyBQghEKsCOgoIABBHENYEELADOGUIIRCgAToICCEQFhAeEB06EQguELEDEIMBEMcBENEDEJECOGUIABCRAjoECAAQQzoLCAAQgAQQsQMqgwE6CggAELEDEIMBEEM6BwgAELEDEEM6BAguEEM6CAgAEIAEELEDOg4IABCABBCxAXCDARDJAzoLCAAQsQMqgwEQkQI6CAgAELEDEJECOGUIABCABDoLCC4QgAQQsQMq5QQ6CAgAELEDEIMBOhAIABCABBCxAXCDARCxAXAKOgcIABCABBAAKOGolLhCABBDIBBAKOGUIABCGAzokCAAQgAQQRhD5AToGCAAQFhAeOggIABAWEb4QDzoKCCEQFhAeEA8QHUoECE0YAUoECEEYAEoECEYYAFCWDliZ_gFgxKECaARwAXgAgAGZAYgBgDySAQUyOS40MpgBAKABAcgBCMABAQ&scient=gws-wiz)

Note

8.

[https://www.google.com/search?q=what+did+adam+smith+mean+by+the+term+%22natural+liberty%22+in+Wealth+of+Nations&source=hp&ei=ynhtY\\_v4I\\_yawbkPuLSTsAM&iflsig=AJiK0e8AAAAAY22G2hlUa\\_Qkl5qdJFIhNoQNFsA8SOS&ved=0ahUKEwj7hYXD0qT7AhV8TTABHTjaBDYQ4dUDCAo&uact=5&oq=what+did+adam+smith+mean+by+the+term+%22natural+liberty%22+in+Wealth+o](https://www.google.com/search?q=what+did+adam+smith+mean+by+the+term+%22natural+liberty%22+in+Wealth+of+Nations&source=hp&ei=ynhtY_v4I_yawbkPuLSTsAM&iflsig=AJiK0e8AAAAAY22G2hlUa_Qkl5qdJFIhNoQNFsA8SOS&ved=0ahUKEwj7hYXD0qT7AhV8TTABHTjaBDYQ4dUDCAo&uact=5&oq=what+did+adam+smith+mean+by+the+term+%22natural+liberty%22+in+Wealth+o)

f+Nations&gs\_lcp=Cgdnd3Mtd2l6EAM6EQgAEI8BEI8BEOoCEIwDEOUCOhEILhCPARCPARDqAhCMAXDIAjoLCAAQgAQQsQMqgwE6EQguEIAEELEDEIMBEMcBENEDOGsILhCABBCxAxCDAToICAAQgAQQsQM6FAguEIAEELEDEIMBEMcBENEDENQCOggILhCxAXCDAToICAAQsQMqgwE6CwguEIAEELEDEENQCOgsILhCxAXDHARDRAzoICAAQgAQQyQM6BQgAEIAEOgUIAB CxAzoLCC4QgAQQxwEQrweE6BAgAEAM6BQgAEIYDOgYIABAWEB46BQghEKABOGUIIRCrA jHCCCEQoAEQCjoICCEQFhAeEB1QvA1YmNEDYK-BBGgBcAB4AIAB9wSIAf5TkgeNMTQuN TIuOC4xLjAuMZgBAKABAbABCg&scient=gws-wiz

Note 9. [https://en.wikipedia.org/wiki/Invisible\\_hand#Understood\\_as\\_a\\_metaphor](https://en.wikipedia.org/wiki/Invisible_hand#Understood_as_a_metaphor)

Note 10. <https://www.forbes.com/2007/10/24/adam-smith-corporations-markets-marketsp07->

Note 11. [https://en.wikipedia.org/wiki/Coke\\_\(fuel\)](https://en.wikipedia.org/wiki/Coke_(fuel))

Note

12.

[https://www.google.com/search?q=how+many+men+were+employed+in+adam+smith%27s+pin+factory&source=hp&ei=eQCGY9-LJlaqtsP0bi4qAg&iflsig=AjIK0e8AAAAAY4YoiYhjY0V9SKypOzm8fsVOYl\\_jlqbO&ved=0ahUKEwifrP2lt9P7AhUGlWofHVEcDoUQ4dUDCAs&uact=5&oq=how+many+men+were+employed+in+adam+smith%27s+pin+factory&gs\\_lcp=Cgdnd3Mtd2l6EAM6DggAEI8BEOoCEIwDEOUCOg4ILhCPARDqAhCMAXDIAjoRCC4QgAQQsQMqgwEQxwEQQM6CwgaEIAEELEDEIMBOgsILhCABBDHARCvAToFCAAQgAQ6CAguELEDEIMBOggILhCABBCxAzoICC4QgAQQ1AI6CAgAELEDEIMBOggIABCABBCxAzoHCAAQgAQQCjoFCAAQhgNQ1wtYh\\_UFYJSGBmgGcAB4AIAB7wGIAdA6kgEHMjMuNDUuMZgBAKABAbABCg&scient=gws-wiz](https://www.google.com/search?q=how+many+men+were+employed+in+adam+smith%27s+pin+factory&source=hp&ei=eQCGY9-LJlaqtsP0bi4qAg&iflsig=AjIK0e8AAAAAY4YoiYhjY0V9SKypOzm8fsVOYl_jlqbO&ved=0ahUKEwifrP2lt9P7AhUGlWofHVEcDoUQ4dUDCAs&uact=5&oq=how+many+men+were+employed+in+adam+smith%27s+pin+factory&gs_lcp=Cgdnd3Mtd2l6EAM6DggAEI8BEOoCEIwDEOUCOg4ILhCPARDqAhCMAXDIAjoRCC4QgAQQsQMqgwEQxwEQQM6CwgaEIAEELEDEIMBOgsILhCABBDHARCvAToFCAAQgAQ6CAguELEDEIMBOggILhCABBCxAzoICC4QgAQQ1AI6CAgAELEDEIMBOggIABCABBCxAzoHCAAQgAQQCjoFCAAQhgNQ1wtYh_UFYJSGBmgGcAB4AIAB7wGIAdA6kgEHMjMuNDUuMZgBAKABAbABCg&scient=gws-wiz)

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13.

[https://www.google.com/search?q=definition+of+metaphysics&source=hp&ei=yqGHY4KKMMnEkPIP-pG4uAo&iflsig=AjIK0e8AAAAAY4ev2swXYwnfWBHBoP3nJGAPnpUsiebx&oq=definition+of+metaphysics&gs\\_lcp=Cgdnd3Mtd2l6EAEYADIMCAAQgAQQDRBGEPkBMgcIABCABBANMgcIABCABBANMgcIABCABBANMgcIABCABBANMgcIABCABBANMgYIABAEa0yBggAEB4QDTIICAAQHhANEAoyBggAEB4QDTToOCQAQjwEQ6gIQjAMQ5QI6DgguEI8BEOoCEIwDEOUCOhEILhCABBCxAxCDARDHARDRAzoLCC4QgAQQxwEQrweE6DgguEIAEELEDEMcbENEDOhEILhCDARDHARCxAxDRAxCABDoLCAAQgAQQsQMqgwE6CAgAEIAEELEDOggIABCxAxCDAToFCAAQgAQ6CAguELEDEIMBOgUILhCABDoLCC4QgAQQsQMqgwE6CAguEIAEELEDOgUIABCxAzoHCAAQgAQQCICWAlixcWDeyAFoAXAAeACAAfcBiAH\\_FZIBBjguMTUuMZgBAKABAbABCg&scient=gws-wiz](https://www.google.com/search?q=definition+of+metaphysics&source=hp&ei=yqGHY4KKMMnEkPIP-pG4uAo&iflsig=AjIK0e8AAAAAY4ev2swXYwnfWBHBoP3nJGAPnpUsiebx&oq=definition+of+metaphysics&gs_lcp=Cgdnd3Mtd2l6EAEYADIMCAAQgAQQDRBGEPkBMgcIABCABBANMgcIABCABBANMgcIABCABBANMgcIABCABBANMgcIABCABBANMgYIABAEa0yBggAEB4QDTIICAAQHhANEAoyBggAEB4QDTToOCQAQjwEQ6gIQjAMQ5QI6DgguEI8BEOoCEIwDEOUCOhEILhCABBCxAxCDARDHARDRAzoLCC4QgAQQxwEQrweE6DgguEIAEELEDEMcbENEDOhEILhCDARDHARCxAxDRAxCABDoLCAAQgAQQsQMqgwE6CAgAEIAEELEDOggIABCxAxCDAToFCAAQgAQ6CAguELEDEIMBOgUILhCABDoLCC4QgAQQsQMqgwE6CAguEIAEELEDOgUIABCxAzoHCAAQgAQQCICWAlixcWDeyAFoAXAAeACAAfcBiAH_FZIBBjguMTUuMZgBAKABAbABCg&scient=gws-wiz)