

Article

# Natural Law Social Science: A Method of Socioeconomics as an Exact Science

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## Abstract

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A presentation of a synopsis of socioeconomics as a potential-to-become exact science based on units of time, money, and energy is given.

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## Introduction

The social science of natural law, founded on the methodical principles of abstract theoretical reasoning and concrete rational inquiry, is practically a lost science; the basic postulate of natural law science is the one idea that natural law is valid at any cosmic time, i.e. every naturally occurring event is bound to temporality and all social systemic processes are natural events. In this context, a salient attribute is the condition that total entropy change increases for every naturally occurring event, human societal events included, social entropy always increases and there is no economic reversal to original conditions.

## Overview

Instead of a sociology as *physical sociology*, as French thinker Auguste Comte envisioned in 1838, we have sociological research literature and advanced statistical essays, i.e. social science moved from the dynamic concept of natural law to static methods of perception, observation, and measurement of social events; a classical mathematization and modern computerization of the static method did also not better the research methodology, because ‘as far as the laws of mathematics refer to reality’, as German physicist Albert Einstein pointed out, ‘they are not certain, and as so far they are certain, they do not refer to reality.’ The real advantage of the mathematical method over human language is the qualitative reduction of quantitative knowledge bodies into abstract symbols: formulae, equations, and calculations;

reality is the resulting law of construction principles in natural event chains, but this does not automatically imply a simple transfer of, e.g., Lagrange equations, thermodynamics, and Carnot cycles on social reality as systemic processes in human societies are of higher order; there is no easy walk in reality. In this direction, the author situates the following transfer correlate values of the physical thermodynamic variables as representative monetary production economic concepts:<sup>N1</sup>

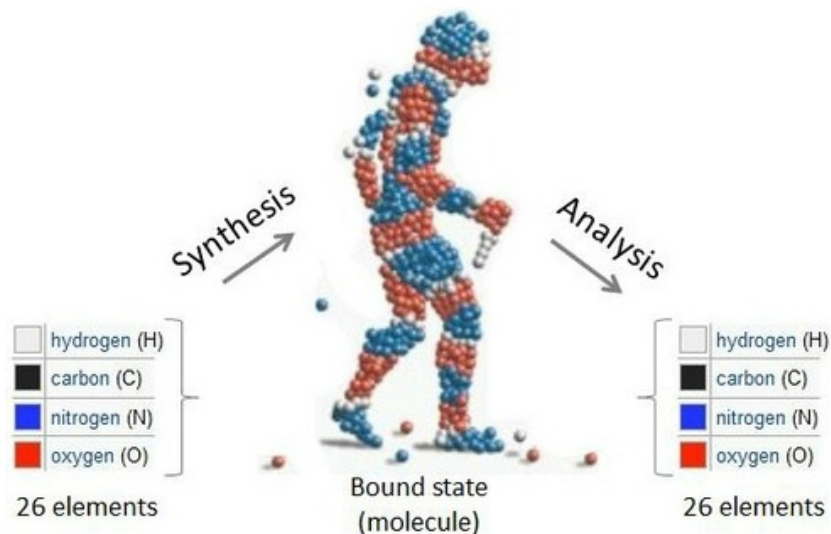
<b>Monetary production economics</b>		<b>Physical thermodynamics</b>
Human	corresponds to " "	Conscious creature
Money		Force
Credit × Interest		Time
Payment		Particle
Market		Energy
Economy		Work
Production		Space
Accounting		Equilibrium
Saving		Conservation
Investment		Negentropy
Inflation		Entropy
Accumulated Payments		Wave function
Monetary volume		Matter

Our argument is that the different approaches in social science, with the matrix polarities of materialism vs. constructivism or behaviorism vs. cognitivism, do actually reflect serially different temporal events of natural law and that dynamic efficiency can be gained *via* exact temporology—the science of time. Our viewpoint is insofar a pragmatic one as that we want things improve to work by extra-temporal expertise and our starting point is physical cosmology. We have at first, therefore, to research into the origin and nature of time or temporal events and to distinguish between local arithmetic time, global geometric time, and universal cosmic time or cosmological time.

The concept of time in physics is between a geometric concept of the space-time continuum and the arithmetic concept of time; there is local arithmetic time related to a succession of experiments in time of clock readings—here considered as a closed system of periodical events—and there is unified objective time for all space, an open world-wide pulse determining the flow of absolute universal time. Human *biological*<sup>N2</sup> age, however, is determined by that permanently flowing time, not by local measurable time. Time appeared simultaneously with the appearance of the spheres of our universe, the existence of time before the appearance would have required a motion of spheres to determine a time interval. The physical temporology of cosmological special relativity is an extension of Newtonian absolute time and Einsteinian relative time and stands in contradiction to the Aristotelian postulate that the universe evolved from eternal matter; cosmological time is unified for all space, the contraction of all temporal lengths is the same as in Einstein’s theory, but not because of the relative velocity of reference systems, but because of the backward or retro-motion in time.<sup>1</sup> As the universe evolved from a singular initial point, it comes

clear that all distances in the past were shorter; this means that an interval of one second today would have lasted 10 seconds then, the interval between two instants of time equal to one second today increases 10-fold; we are unable to reach the singular point of temporal origin even mentally because this would take infinite time. A constant expansion rate of our universe plays the role of constant light velocity and the age of the universe is a universal constant, this means that the age of the universe tomorrow will be the same as it was yesterday or today—the speed of light in vacuum and Hubble time in vacuum behave the same way and are both universal constants; light travels at 300,000 km per second when measured physically in vacuum, if we try to decrease or increase this rate by moving at very high speed or against the direction, we will measure the same number as before, i.e. the measurement instruments adjust themselves to the same final result. Consequently, according to cosmological relativity, all natural laws are valid at any cosmic time and this is the starting point of natural-law social science.

The discovery of the laws of nature and the social perception by the human mind of the higher physical order will enable us to complete our role as conscious creatures and to perfect the entire social world; the multiplicity of the social cosmos derives from the unity and physicality of natural law, manifesting the original essence and nature of human ‘life’ or what in modern upgrade physical science terminology is referred to as *reaction existence*—namely the period of motile existence of a human as a 26-element reactive animate motile bound state molecule, between its point of inception during synthesis and point of desistance during analysis; the atoms falling off signifying turnover rate.<sup>2</sup>



Reaction existence—aka life—being continuous or constant change, is equitable with continuous change, from the beginning to the end; all change is systemic, from the universe down to the smallest cell and an interlinked hierarchy of systems is involved in the change cycle-process—though this change is cyclical or repetitive, it is also progressive, like a spiral rather than a linear projection, depending on the duality of the universal laws of nature; therefore, humanity must learn to live in socio-economic balance towards sustainable natural harmony in cosmological time. The unity of natural law is not random or casual; it is causal and performs in universal time-tuned change waves, i.e. the natural science of time is the key to open up the research door for an exact socio-logical discipline. As we already mentioned, we do not claim to simply or easily transfer physical and natural law concepts into social science and we will diligently try

to integrate workable literal and statistical assumptions of socio-economics into our methodology, to arriving step-by-step at a natural science of socio-economic systemic processes. The theoretical insight into the unity of natural law will give us more practical degrees of social freedom and progressively enhance our ethical liberty.

In our age of intellectual hyper-specialization, the diverse facts multiply and grow increasingly and extremely disparate; this is not only because the technical forces of science are continually and rapidly growing, but because the many disparate facts cannot easily or simply be combined into an advanced mental order.<sup>N3</sup>

“The trend towards the already mentioned diversified society of ‘specialists’ and the related danger of narrower way of thinking (idiot savant) necessarily leads to a growing helplessness of the individual. Related to this is a growing blind belief in science. Since Leibnitz, probably the last universal genius, we know more and more about a shrinking area of knowledge. Biology and physics, chemistry and medicine are divided already today into dozens of individual disciplines, which like a ‘hydra’, keep dividing into other individual disciplines.”

— Hans-Wolff Graf (1995), “We Need a New World View”<sup>3</sup>

Humankind progresses in the uncertain feeling of continuous change, in contradictions, paradoxes and set-backs and growing complexity means existentially increasing uncertainty; in the natural succession of social orders, we can see the functions of once established customs and institutions and man’s consciousness develops; consequently, in the succession of the cognitive stages of consciousness, we can practically catch scientific sight of the natural law of the social world order, under the changing conditions of economic uncertainty; it can be considered a general rule that human activities that reduce this uncertainty or risk about people’s behavior will lead to real improvements in economic welfare by increasing total utility—in a world that displays diminishing marginal utility and where people behave simply not logical, on the large scale. In any case, the learning process of any discovery is basically intuitive, but methodical logic is used to confirm results; even in an artificial field like mathematics, progress is not made by logic and most interesting is the heuristic way of the scientific researcher to discover theorems and proofs; the human brain is a connection machine and not a von Neumann one.<sup>4</sup>

If our objective is really to model socio-systemic processes of natural law, then pure logic is an erroneous starting point; the ability and feature of human intelligence to reason logically is not a standard social practice. It is also more than important to keep in mind that the origin and nature of human economic activity derives from the rules of temporality or temporological law, i.e. all socio-economic systems are bound to the physical limits of time, money and productivity, e.g. if the debt of households, firms and institutions exceeds the total factor productivity—namely of: labor, money, time, knowledge—an inevitable temporal acceleration of events takes place; there are enough documented historical phases of accelerated temporal intensity where the monetary stress of a debt economy did self-automatically grew not in linear form, but exponential progression. Clocks appeared in the Occident in the 12th century when the natural exchange economy was actually replaced by money; in the Renaissance, during the great debt or credit wave, the tower clocks began to count the ¼-hour for the first time in human history; early industrialization, with growing necessary market precision of production and distribution over long distances, invents the chronometer in 1763. The economic evolution of social systems is not a random

process, but a normal result of natural law, with historical periods of high selection pressure and eventually intelligent human response to changing conditions. It is therefore decisive to study, firstly quantitative economic history, secondly group-psychological experiments, and thirdly informed economic forecasting; this can be done on the ethical, economic or ecological level of natural law. We will refer to these as economic action studies.

In our times, the temporal productivity of the knowledge worker is an absolute critical factor of market processes; in addition, the industrial management rule of increasing labor productivity via capital, automatically resulting in cost reduction, is no more valid, i.e. the productivity of money can decrease labor productivity and or value creation per capita. Furthermore, nothing educates people better economically than scarce and expensive money because under the natural pressure of high cost management, the economic action studies will be profoundly learned; nothing spoils economic thought faster and heavier than the instant availability of much and cheap money; the scarcity of money is the only economic means to foster a free and entrepreneurial spirit in a human society and to advance the managerial transformation of knowledge into value and or utility.

The managerial classes in private firms and public institutions still have a knowledge deficit in perceiving, observing and measuring the fundamental nature of this ongoing socio-economic change. It is a social scientific fact of natural law that the temporal factor cannot be outsmarted by electronic computerization; money as accounting unit and token of payment must reflect the physical or natural boundaries of economic *reaction existence* (life). Any collective belief in monetary alchemy must ruin economic productivity; the only sane role of a speculator in a market society is to reduce uncertainty or risk via a gamble over prices and or pricing. A market economy can only operate under the criterion of liquidity and profit maximization is always an extra-temporal phenomenon, e.g. in the economic case of an entrepreneurial innovation; private firms do stay in competitive business via their real operative performance and the managerial design of public institutions should be small, to avoiding overhead from the very beginning.

The social world does pertain to natural law, firstly in a human economy, you cannot get something for nothing, secondly, where argue that economic entropy—the transformation content associated with a socio-economic system—tends to increase, per the second law, and thirdly that no reversible economic return is possible. From this it follows that the thermodynamic laws of systems are intelligently applicable to the *working body* economics of a human society, but a higher order of empirical insight and understanding into the natural law of social order is urgently needed, i.e. wars, revolutions and political radicalization are signals of lacking cognition into natural law.<sup>5</sup> These findings do not consequently support human theories of social justice that are not grounded in the science of natural law, e.g. the theorem of interest-bearing capital in Marxism, because extra-value can be created by the circulation of fiat credit of private commercial banks, thus artificially expanding the real possibility of a 24-hour marginal exploitation of labor . Also many other social theories of a natural order of the human economy are based on the empirical ignorance of natural law science; social justice and natural law will not fit easily into a mono-causal formula, equation or calculation and much more precise social thought will be required to resolve some of the most burning questions of human existence which is limited by the natural law of finite temporality.

Speaking clearly, it is not sure that the social inquiry into natural law will grant us instantly a redemptive value and it is surely not research into immortality or infinity; the *bio-physics* (*chnops-physics*) of socio-economic transformations is based on natural law and we perceive cultural ideas and ideals mainly as a workable human response to coping with reality. What really matters is consequent scientific research into the construction principles of this reality; however, it goes also with any doubt that ancient cosmological wisdom implies very much time-tested knowledge of natural law, thus we see no real conflict between classical and modern thought, except on the temporal continuum. In any case, human reaction existence is complex, natural law is complex, and economic decision-making is also complex; in our modern age, the driving factors of this complexity or multiple interconnections are demography, technology, ecology and debt. According to natural law, an economy cannot satisfy needs, it can only cover demand; and demand are only those needs where somebody can pay for, i.e. there is never enough supply for the needs of this world.

The natural forces that provoke recurrent recessions and depressions are merely waiting for the return of similar socio-economic events; we still do not have the wisdom and ability to eliminate an economic collapse like that of the Great Depression. Extreme events, like the breakdown of the banking and financial system under the weight of debt default, are still possible although economic science has gained already more knowledge to use monetary and fiscal policy to tame wild events, but we admit that this wisdom is not based on textbook economics. It is impossible to manage an entrepreneurial firm by the rules of accounting and we cannot quantify corporate leadership via monetary units; the logic of financial economics does not create real productivity and utility and or value, i.e. what is generally understood as *going* (living) standard and welfare.<sup>N4</sup> On the contrary, financial logic does extract economic resources from real value creation into money illusion bubbles (like shareholder values) and destroys sustainable economic conditions, i.e. history teaches nothing but punishes brutally for the lessons not learned. The real source of long-term cash flow for any enterprise is the customer value; false monetary thought and methodical financial mischief can ruin an economy and quantitative economic history is full of negative examples when the dominance of money over the economy gained social momentum as a political combination of group psychology and economic religion. In any case, money is not an omnipotence mechanism of economics, but it is a market replicator in the economic chain of payments. All human economy and economic history is not product of a voluntary act, but a necessity of natural forces, embedded in a temporal series of payments, accounting and stock building, i.e. human economic activity is socially governed by natural law. Erroneous monetary thought and methodical financial mischief did historically always result in a rapid entropy of the socio-economic system because the mathematical logic of financial economics cannot communicate with the physical law of natural feedback signals from the real economy, i.e. in this case, the finance-mathematical logic does block the *bio-physical* (*chnops-physical*) communication and transmission of economic signals from the social system and its natural environment.<sup>Q1</sup> Medically speaking, the malady of the patient is caused by the application of the wrong substance with an overdose and even a precise post mortem is no cure—physician heal thyself and patient heal thyself, with the medicine of natural law and stay *reactive* (alive). The management of the next society will pay definitely more attention to this economic communication processes between the value creating system and its socio-ecological framework. What really matters are earnings after everything and

the proper role of financial logic and monetary strategy is to formulate, equate and calculate the final results of economic circulation; however, these mathematical function does work only after toil and delivery when payments are received, accounted, emitted and reinvested. Economic complexity cannot be calculated or fabricated; the only workable social strategy is communicative adaptation and learning, e.g. the skilled chess-player does calculate none to one game-operation while immersing physically into the flow of the mental game. Consequently, the *working body* economic can be precisely and exactly understood by the scientific application of natural law on socio- systemic processes.<sup>Q2</sup>

Human ingenuity cannot circumvent the entropic nature of economic action; the current entropy of the working body economic is a thermodynamic result of the monetary excess caused by fiat credit; some sort of narrow banking system is needed to heat down the economic machinery; only a new economic interplay of private financial intermediation and public monetary policing is the social remedy. The wrong substance is injected into the economic body *via* financial alchemy; it is the same as if a car should be fuelled by water. It may be the great social illusion of this electronic age that everything is driven by information; all known factors of production—natural resources and or land; human resources and or labor; technical resources and or capital—are indeed becoming knowledge-intense, but information is an operating feature of matter and energy which both derive from light. In all tangible production factors, the percentage of intangible knowledge-intensity may be well up to 80%, but that does not imply that the physicality of natural law does no more apply, i.e. the new economy will be governed by the old laws.

Consequently, the electronic injection and circulation of fiat credit units into the working body economic is medically toxic to the *bio-physical (chnops-physical)* organization of production and distribution in a market society, because money no more serves its original and natural role as market replicator. Its secondary role is that of an accounting measure and its tertiary and most problematic role is wealth storage; in any case, the monetary system has to find back to an economic balance of narrow banking, this means financially full reserves (on credits) for private commercial banks, separating credit (debt) and money technically; the emission of debt-free money will work by legal public authority. The nature of a possible gold standard vs. fiat currency also belongs into the political discussion of this vital and decisive economic problem; however, in a modern market society, we do use money as a communication medium of everyday *reaction existence* (life) and this is the methodical reason why we have to concentrate our rational inquiry on the negative feedback effects of fiat credit on human economic productivity.

It should also not be forgotten that especially money has the very temporal nature of reinforcing irreversibility in human economic activity, i.e. the monetary volume increases financially the entropic processes of an economic system which is thermodynamic by nature. In one sentence: the current monetary practice is contrary to natural law and based on an economic illusion. An evolutionary correction of this systemic failure in financial banking operations is inevitable, either by sound monetary reform or by entire economic collapse. Fortunately, today we have more economic knowledge of monetary and fiscal policy than in the late 1920s and more technical ability to tame the depression of economic development. The modern research of complexity science teaches that the physical structure of socio-economic systems functions naturally bottom-up, i.e. macro-economic measures can only reinforce or inhibit micro-economic action which practically means that every single payment matters in a market

society as it is the basic physical element of the liquidity chain; the natural micro-spontaneous order of monetary market processes is the replicative elementary mechanism of the working body economic.

## Conclusion

The physicality of money is its medial service as replicative market mechanism in a modern economic society; the criterion of market economics is liquidity and not profit maximization—capitalism as an economic system of private property is based on this financial fact. Keynesianism and monetarism are means to establish a capitalist planned economy and Minsky proved the financial instability of these policy interventions.<sup>Q3</sup> The emission of fiat credit—and the resulting collection of progressive interest—by private commercial banks is contrary to the natural laws of economic science and no public monetary authority can statistically and mathematically police this basic methodical error that causes systemic failure. The current physics of money is against the meta-logic of investment into capital and depresses the body economic from growing; some system of narrow banking is needed to rectify the recessive nature of this monetary mischief; it should no more be allowed to create money out of thin air. A total privatization of money and a gold standard are not recommended, a creative interplay of private full reserve banking and a public monetary authority is preferable—the separation of private credit and public money seems to be the best solution.

From the viewpoint of natural law social science, the artificial injection of fiat credit from the private banking system and the subsequent expansion of the monetary volume by central banks is the basic cybernetic error of the modern market society, accelerating the irreversible thermodynamic entropy of the working body economic and causing eventually its entire monetary collapse. Even a socialist market economy is required to operate its financial circulation by the monetary duality of private banking and public authority for calculation purposes as the emerging case of China demonstrates; as we already mentioned above, there is no easy walk in reality. It is therefore wise to adapt to and learn from natural law social science that the original role of money is that of a market replicator and that only narrow or full reserves do fulfill this physical criterion.

We can learn from quantitative economic history that the monetary trend to price inflation is as old as the market economy and that the economic advent of industrial capitalism accelerated this monetary trend with the financial technique of fractional reserve and central banking. Methodologically, it is easier to forecast the economic trend of the real gross national product than the real wave of inflation; predicting errors are two-thirds smaller for real gross national product and one-third smaller for the real wave of inflation if methodically compared with informed guesses in postmortems. In addition, the experimental findings of group psychology are teaching us a strong dynamic and systemic error of majority biases in judgments of perceived physical phenomena. Knowing this, it is wise to presume that memory is not history, experience not experiment and extrapolation not future; consequently, the research into natural law social science will lead to a more sure knowledge- foundation of human action and liberal prevision. In this decade, a sort of narrow banking system will evolutionary emerge by monetary reform or by financial collapse that will economically adapt to the natural law of ‘monetophysics’ or the physics of money, i.e. the original and natural law of money is that of a market replicator and its role as a token of



payment, a value measure, wealth storage and legal construct are social derivatives of this natural event of economic circulation. In any case, the monetary enigma is most probably the methodical key to an exact social science based on natural law.

Notes

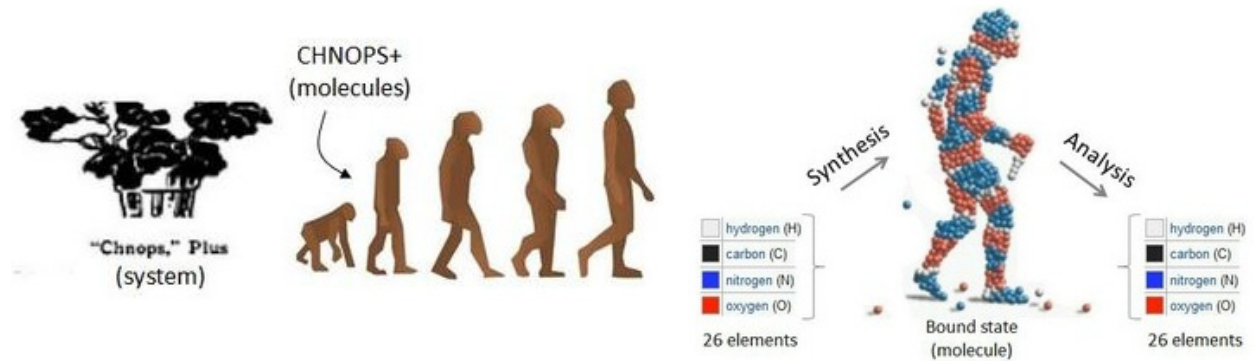
N1. (a) In 2011, on the wise protocol of American economist Irving Fisher’s 1982 economics thermodynamics variable table:

<i>In Mechanics.</i>		<i>In Economics.</i>
A particle	corresponds to	An individual.
Space	“ “	Commodity.
Force	“ “	Marg. ut. or disutility.
Work	“ “	Disutility.
Energy	“ “	Utility.

JHT editor Libb Thims began to request human thermodynamic variables tables, such as above, from submitting authors; the historical usage of such correlation variables tables found here:

(b) [eoht.info/page/Human+thermodynamic+variable](http://eoht.info/page/Human+thermodynamic+variable)

N2. (a) All life-terms, e.g. bio-, living, alive, etc., and their antonyms, e.g. dead, death, non-life, etc., per 2012-initiated JHT life terminology upgrade protocol—typified by the keen discernment that: “chemistry does not know the word life” (Charles Sherrington, 1938)—have been editorially redacted and or clarified with brackets into the chemical thermodynamically ‘neutral’ terminology. Defunct terms, such as ‘plant life’ and ‘animal life’, e.g., have been rephrased as CHNOPS+ systems or molecules, respectively; defunct process conceptions such as ‘birth’ and ‘death’, e.g., have been redacted into the chemically-neutral equivalents of synthesis and analysis, respectively, as shown below—terms applicable hydrogen to human:



Synthesis

$G = H - TS$

2010

Human molecular formula

$$C_{10}^{27}H_{10}^{27}O_{10}^{27}N_{10}^{26}P_{10}^{25}S_{10}^{24}$$

$$Ca_{10}^{23}K_{10}^{24}Cl_{10}^{24}Na_{10}^{24}Mg_{10}^{24}$$

$$Fe_{10}^{22}F_{10}^{23}Zn_{10}^{22}Si_{10}^{22}Cu_{10}^{21}$$

$$B_{10}^{21}I_{10}^{20}Sn_{10}^{20}Mn_{10}^{20}Se_{10}^{20}$$



$$Cr_{10}^{20}Ni_{10}^{20}Mo_{10}^{19}Co_{10}^{19}V_{10}^{18}$$

35. The formation of a compound by putting together the elements of which it is composed, is termed *Synthesis*, also from two Greek words, *sun*, together, and *thesis*, a placing.

34. The decomposition or *taking to pieces* of a compound body, in order to discover its constituent elements, is called *Analysis*, from two Greek words, *ana*, thoroughly, and *lusis*, a loosening.



The following, e.g., shows the old and now defunct 2000 *Merriam-Webster Collegiate Dictionary* definition of a human as compared to the new and accurate chemical thermodynamically neutral 2011 *Advanced Engineering Thermodynamics* textbook definition of a human (citation: Libb Thims, 2002), shown with the "Hu" human element symbol over the baby, the difference between the two being that the term "living" is not found in the latter:<sup>14</sup>

	Human definition		Date	Source
Old	"A bipedal primate mammal ( <i>Homo sapiens</i> ); broadly : any living or extinct member of the family (Hominidae) to which the primate belongs."		2000	<i>Merriam-Webster Collegiate Dictionary</i>
New	"A 26-element energy/heat driven dynamic atomic structure."		2011	<i>Advanced Engineering Thermodynamics</i>

(b) [eoht.info/page/Life+terminology+upgrades](http://eoht.info/page/Life+terminology+upgrades)

(c) [eoht.info/page/Defunct+theory+of+life](http://eoht.info/page/Defunct+theory+of+life)

N3. A large portion of the article was strengthened with additional clarification, support, and or historical background, by JHT editor Libb Thims, to facilitate the readability of the argument being made.

N4. (a) Thomas Huxley (1880), seems to have been the first to give the following terminology upgrade:<sup>6</sup>

- Lives → Goes

a language which, accordingly, has deep cogent connection to James Maxwell's famous 1834 age three query to everything that moved, shone, or made a noise, which drew the question: "What's the go o' that?"

(b) [eoht.info/page/Go](http://eoht.info/page/Go)

## Questions

Q1. What does the author mean by this statement: 'Erroneous monetary thought and methodical financial mischief did historically always result in a rapid entropy of the socio-economic system'?

Q2. What does the author mean by this term: '*working body* economic'?

Q3. Why are John Keynes and Hyman Minsky mentioned in the conclusion but not mentioned in the article?

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4. [eoht.info/page/Neumann+automaton+theory](http://eoht.info/page/Neumann+automaton+theory)
5. [eoht.info/page/Working+body](http://eoht.info/page/Working+body)
6. (a) Huxley, Thomas. (1880). *Science Primers: Introductory* (§65: Living Bodies differ from Mineral Bodies in their Essential Composition, in the manner of their Growth, and in the fact that they are reproduced by Germs, pg. 92). Publisher.
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