

## The Ancient Egyptian Econometric Model: Multidimensional Osmosis Therapy in Africa

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### ABSTRACT

How can potential impact of the optimal policies of externalities trade to uncouple growth and volatility in order to restore Ancient Egypt economic model be explored by the means of numerical econometrics test? An in-depth study of the economic model of Ancient Egypt through a thirty-three-year experiment using therapeutic osmosis reveals a serious rout from the modern era onwards, with balkanization and a vast apostasy of science into domains of approximate knowledge in a world that had hitherto been characterized by adoration and strict obedience to the laws, principles, ordinances and covenants that formed the foundation of all human action. The optimal policies ensured the equilibrium and automatic regulation of the economy and of all life in society. It is clear that this restoration of African identity would not only benefit Africa but could save the whole world from inevitable extinction. Using numerical evidence, through priesthood authority theory experiments, we find that the human organism's multidimensional exchange mechanism, consisting of more or less integral compensation processes for negative and positive externalities, is responsible for the volatility of human growth, the main determinant of life expectancy, analogous to the relationship between the processes of economic growth volatility and sustainable growth.

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### Introduction

Even though Ancient Egypt economic model goes back to Ancient Testament and the Book of Mormon, the recent versions are closely related to the Church of JESUS-CHRIST of LatterDay Saints (1830). In such a model, faith in God, laws and principles, covenants, ordinances, salvation, economics, biology, mathematics, medicine, physics - in short, all the sciences - form an indiscernible whole. To disconnect the different components of science is to render it incomprehensible and futile. In fact, the ideal of the community itself is the return of all God's children to the heavenly home from which they all left to learn how to become God on earth through the test of faith. All must seek first the heavenly kingdom, and the rest, which is secondary, will be given to them in addition. We understand that the ultimate goal is the change of state, not the possession of things, for these do not make us happy, and above all they are perishable. The only way to make them eternal is to convert them into divine qualities (love of God and neighbour, goodness, kindness, patience, long-suffering, gentleness and the like) on which true happiness, joy and peace depend entirely. The oneness of the community is a commandment, oneness of the living but also of the dead and even with God. Therefore, the Law of Consecration or United Order is a divine principle by which men and women voluntarily dedicate their time, talents and material wealth to the establishment and development of the Kingdom of God etc. Whereas in today's economic system, the logic of strict rationality with remuneration

based on work, talents etc., in the traditional African system, the order is reversed. It's the logic of faith, obedience to divine laws and principles, that generates wealth. The rights and duties of each individual are determined by membership of a tribe or family, and even within the family, a precise order is established. Rights of purchase or buy back and production, relations between families, the levirate, rigorous practice of laws and principles are clearly defined. Thus, the slightest change in a principle or practice is an apostasy, a grave sin. Hence, given the indiscernible nature of knowledge and practices, which are always multi-dimensional, the only means of investigation is the analogy of parables: eternal life is like a field, eternal life is like the ten virgins, and so on. However, if you want to bring to evidence that generations of a nation separated by a very long period (100.200. 1000, 5000. ... years) exchange goods for productive factors (the hearts of fathers must be turned towards their children and the hearts of children towards their fathers See Malachie 4:5-6). so that current growth is a by product, what should be the best formula? In the original evidence on multidimensional trade theory, the hard question was as follows: How can the potential impact of the optimal policies of externalities trade to uncouple growth and volatility to generate sustainable growth and clean production be explored by means of parabolic modelling or numerical econometrics? Because of the crucial importance of zero sin (zero-waste) and above all mutual perfection, more evidence on the fundamental mechanisms of sustainable growth is needed. In ancient Egypt, scientific knowledge was indiscernible and sacrosanct, hence the use of exact scientific methods in econometric modelling is commandment. In the scriptures, although mathematics is present, analogy or parables were used to explain complex phenomena in

order to allow a deeper understanding of their clarity. So the only basis for any sustainable system, i.e., normal, is a natural analogy. It is very rare to find phenomena in nature that are not analogous. Thus, everything that flies is the true precursor of the airplane. The same is true of the ladybug and the car, the train and the centipede. The term analogy indicates that one thing is sufficiently similar to another, from a certain point of view, that their analog makes it possible to say of one or do with one that also applies to the other. If we could show that the theory of multidimensional trade is sufficiently similar to a biological mechanism, we could say of one or more things that also apply to the other. This simplifies calculations while providing valid results ([https://fr.wikipedia.org/wiki/%C3%89lectronique\\_analogique](https://fr.wikipedia.org/wiki/%C3%89lectronique_analogique)). I would like to know whether the theory of multidimensional exchange is sufficiently similar to that of food metabolism, from a certain point of view therefore entirely comparative or analogical, i.e., the populations to be compared are fully observable, unlike modern Econometrics, where we try to approximate the values of a population that is not fully observable from only a sample of the parent population. As we shall see later, by identifying an economic phenomenon with a similar natural phenomenon, Egyptian Econometrics makes it possible to achieve error-free numerical econometrics, unlike purely analogical modern Econometrics. Although faith in God was the only true factor of production in ancient Egypt, the proportion-of-factors model seems better suited to the numerical modelling of ancient Egypt. Insofar as the priesthood, i.e. the Power and Authority of God, operates only through faith in God, in this model, they will be considered the only factors of production in the economy.

However, the sacred and precious knowledge described here has not been in use in Africa for thousands of years. We now know, six decades after independence, that the maximum level an African can aspire to in the Western education system is that of a Genetically Modified Organism (GMO). "A GMO is a microorganism, plant or animal whose genetic heritage has been modified by genetic engineering to give it characteristics that it does not possess at all or that it already possesses, but to a degree deemed unsatisfactory in its natural state, or to remove or attenuate certain characteristics deemed undesirable" (CEST du Québec). The behaviour of these new organisms in the environment is totally unpredictable, according to several studies on environmental and agricultural risks. Transgenes that escape from modified plants and contaminate the genetic heritage of other wild or cultivated plants cannot be brought back to the laboratory if they prove harmful or toxic, and will multiply with the host organism in an uncontrollable way. Similarly, science teaches us that an individual's perception is determined, in part, by his or her social environment, and that this perception controls the production of hormones responsible for certain human reactions. So it's easy to understand that if we administer an educational model from a given ecological environment to another people whose ecological environment is more or less distant, we generate a new people, akin to a GMO. In our case, these GMOs or Genetically Modified Africans (GMAs) are strange beings with the following properties: statelessness, associability, societal dwarfism, mental regression and disturbance, cultural obstruction, insensitivity, cultural strabismus, sterilization in technicality, dissatisfaction, insatiability, moderate schizophrenia, psychological problems, loss of authenticity and originality, lack of audacity, braggart, idle mind, low consecration, disobedience, unpredictability, organic de-structuring, low solidarity, barbarism, desacralization etc. They have strong physical capacities but are extremely indolent and careless, with a strong aversion to risk, simple minds but full of mischief and tricks, vices, not very

inventive, idolaters, envious, lovers of discord, complexed, lacking in self-confidence, obsequious etc. It might be useful to make an in-depth comparative study of the behaviour of self-authentic Africans and drifting Africans (before and after colonization), on the one hand, and with other peoples, on the other, to see the extent of the damage. Embezzlement of public funds on an unimaginable scale, irresponsible politics, commercialism, pure wickedness, animal spirits, predation, insensitivity, theft, anger, pure lies, selfishness, lack of self-control... are legion in Africa. But as prophesied by all the prophets, ancient Egypt will experience a great and profound apostasy and will be scattered far from the Lord. However, because of the covenants and promises made, in the last days there will be a physical and spiritual gathering of all the scattered children of Egypt. The African culture that built the great empire of Ancient Egypt has undergone apostasies and re-establishments of monotheism from time to time. It is this ensemble that constitutes African cultures. The dominant culture was the one transcribed on the annals taken to America by the prophet Lehi in the time of King Zedekiah, the last king of Judah, known today as the Book of Mormon. It's clear that the Econometric Society has been greatly inspired by this age-old prophecy, and will certainly go down in history as the first to rewrite the African economy. We are thus ready to be part of this essential component of human history by posing the following research question: How can the potential impact of the optimal policies of externalities trade to uncouple growth and volatility in order to generate or restore Ancient Egypt economic model be explored by the means of parabolic econometrics test? In our experience, we objectively report how the phenomenon of osmosis allows the restoration of ancient African culture. We know that the Book of Mormon originated in African culture because of the survival of the principles described in this Book in many typically traditional African villages. These include faith in God, obedience to laws and principles such as love of God and neighbour, generational blessings or curses, common consent, covenants with God and the promises that accompany them. For example, the promises were made to Abraham and his descendants. Jacob called his sons and made promises to each of them, announcing what would happen to them and their descendants in the future. In our experiment, we will see how the exposure of certain Africans to the laws and principles of the Church of JESUS CHRIST of Latter-day Saints, heir to African traditions (therapeutic osmosis) restores Antique Africa or Ancient Egypt. The paper includes the introduction section (1), the numerical Econometrics in Ancient Egypt (2), the section on Restoring Ancient Egypt (3), the conclusions and policy issues (4) and references (5).

### **The Numerical Econometrics in Ancient Egypt**

In the annals of the Egyptians, the only available models are parables. These include the dream of Lehi (1Né 8 :2-35), the allegory of the olive trees Jacob 5 or the parable of the ten virgins. African Econometrics is therefore entirely comparative or numerical, i.e., the populations to be compared are fully observable, unlike modern Econometrics, where we try to approximate the values of a population that is not fully observable from only a sample of the parent population. As we shall see later, by identifying an economic phenomenon with a similar natural phenomenon, Egyptian Econometrics makes it possible to achieve error-free numerical econometrics, unlike purely semi- analogical modern Econometrics.

### **Analog Model Configuration in Ancient Egypt Specification of the Analog System Assumptions**

The approach to factor proportions in Ancient Egypt is based on the following assumptions:

- Each economic agent loves God and his neighbour with all his heart and soul. In the economy, there is a pre-established order in which God comes first in every situation, his neighbour second and himself third. There is an ongoing exchange between the living and the dead over multiple generations so that the living are not perfect without their dead nor the dead without the living. This is based on the prophecy of Malachi 4: 5-6 “Behold, I will send you Elijah the prophet, Before the day of the Lord comes, That great and dreadful day. 6 He will turn the hearts of fathers to their children, and the hearts of children to their fathers, lest I come and strike the land with a curse.
- All economic agents have conditional rationality, meaning that they only make choices if they are called upon (predestined or pre-ordained) to do so. Indeed, given the absolute advantages or monopsonic conditions of economic agents in terms of both production and consumption, their needs are definitively different, hence the absolute irrationality of economic agents outside their pre-endowed or endowed zones. This denotes perfect altruism in the behaviour of economic agents, as each economic agent aims to maximize collective profit and community utility and/or the glory of God.
- Altruism, absolute revealed advantages and the right to buy or sell (birthright) create totally pre-determined markets. Indeed, the endowments in terms of economic goods took place in a pre-mortal life and are simply confirmed in this world. Markets are only purely and perfectly competitive. The only purpose of competition is to confirm pre-mortal endowments and, as a result, even economic agents have pre-determined optimal plans (to be confirmed in production and exchange based on birth or purchase rights), price-takers, which are perfectly flexible.
- All economic agents are far-sighted, because every economic agent has the Holy Spirit as his guide and, by persevering in justice, ends up making choices without error.
- Trade takes place at equilibrium prices.
- Economic agents' anticipations are perfect and without error.
- The only true productive factor is faith in God, as the Scriptures confirm. The just shall live by his faith, Ha 2:4. Your faith has healed you, Mt 9:22 (Mk 5:34; Lu 7:50). Let it be done to you according to your faith, Mt 9:29. If you had faith like a mustard seed, nothing would be impossible for you, Mt 17:20 (Lu 17:6). Finally, all the other factors of production (priesthood power, sacrifices, trials, land, priesthood authority, power in priesthood, pre-endowed gifts or rights...) can be converted into their “faith” equivalent, for without faith it is impossible to be pleasing to God, who gives to each according to his faith. “The Lord was with him (Joseph of Egypt) and prosperity followed him; he lived in the house of his master, the Egyptian. 3 His master saw that the Lord was with him, and that the Lord made all he did prosper in his hands. 4 Joseph found favour in the eyes of his master, who employed him in his service, and set him over his house, and entrusted to him all that he possessed. Genesis 39:2-4.
- Economic agents have unequal and different pre-terrestrial endowments. However, whoever serves God with all his heart, power, soul and strength receives equal satisfaction (D&C 4:2). Returns are constant as seen in the parable of the talents indicating that the frontier of productions possibilities is a straight line. However, everything points to the fact that, contrary to the assumption that needs are unlimited but goods are limited, this is not compatible with the claims that “whatever you ask of my Father in my name will be given to you”, “Ask and you shall receive”, “Knock and it shall be opened to you”, “If you had faith like a grain of mustard seed, nothing would be impossible for you”. Man limits himself by his unbelief.
- All economic agents are supposed to be perfect in all things, but they are not always. They can commit more or less serious sins, which they can then repent of. But sin affects production and consumption more or less considerably, in terms of purchasing or production rights. It is through persuasion that the community helps the sinner to return to righteousness. Disciplinary councils are also provided to help the most serious sinners repent. One can also be put to the trial, disqualified or excommunicated. In the first two cases, the economic agent loses certain purchasing or production rights, but recovers these rights during the two years following the disciplinary council. These two years are a time for repentance or intensive training. In the event of excommunication, the economic agent loses all purchasing and production rights and is no longer a member of the community. After two years or so, if his or her behaviour is honourable in relation to the sin committed, the economic agent is said to have repented, and a second disciplinary council for reintegration into the community is organized to examine his or her dignity. These different processes of repentance with the prayer, fasting, religious rituals, Lord's Sacrament meetings, conferences, temple services, covenants, ordinances and sacrifices constitute the major policies for regulating the economy that is entirely in God's hands. Thus, imbalances due to sin are not lasting, since in the event of failure to repent properly, the economic agent is excluded from the community to avoid cases of lasting imbalance.
- Education is not separated from the workplace and is completely free of charge. The superior steward can offer either work or a complementary income to the economic agent according to his revealed gifts and according to his needs and needs for progression.
- A system of voluntary but indispensable tithes and offerings or sacrifices for certain professions enables the economic agent to perfect his faith, but also provides the superior steward with the means to provide certain services free of charge, such as transport, education, mutual aid to economic agents in distress or difficulty, health care, security, etc. These tithes, offerings or sacrifices are not only essential to the economic agent's progress, but also to the superior steward. These tithes, offerings and sacrifices are akin to painless taxes, since the economic agent who honestly pays his generous tithes and sacrifices increases his faith in God and obtains a fullness of production and joy.
- Since education and work are not separate, free learning and work last a lifetime and constitute an optimal system for perfecting and regulating the economy.
- More generally, the 42 commandments and all the principles, laws, covenants and ordinances ensure the permanent perfection of economic agents, who are expected to experience a high degree of economic efficiency.
- More generally, the 42 commandments and all the principles, laws, covenants and ordinances ensure the ongoing improvement of economic agents, who are expected to undergo a great change of heart.

### Specific assumptions

Let  $k$  be small economies of 1900 economic agents each (a stake size economy), denoted  $E_1, \dots, E_k$ . In each of these economies, individuals are particularly well acquainted in all respects with the same level of satisfaction. Each member of these small

communities surrenders all his possessions to the community and receives in return for the auctioneer just the part of the goods that provide him with the utility of the median voter or representative agent of this community. Although individual shares are totally private, every steward is accountable to the community for its good management. Hence everything happens as if they had everything in common. Every individual in the community knows that his fate depends entirely on the good behaviour of each of the other 1899 agents. Indeed, if one of the following situations occurs, the well-being of each person is affected in the same way in the following proportions:

- Any of the agents is quite sick: individual well-being falls by 25% while the situation of the whole community is 75%. If this disease is severe, individual well-being is affected by 50% and the overall well-being is 50%. If one member were to passing, each member would suffer a total loss of individual well-being and that of the whole would also be 0 during the next four months.
- Similarly, lack of food, insufficient food, loss of housing or inadequate housing, lack of clothing, inadequate clothing, lack of transportation or Inadequate transportation, lack of education or inadequate education of one member would reduce individual welfare by 30% or 20%, 25% or 15%, 20% or 10%, 20% Or 10%, 15% or 10%, respectively.
- In addition, many other bad behaviours (theft, cheating, covetousness, greed, drunkenness, injustice, murder, adultery, disobedience, insult, lies ...) threaten to destroy this small community.
- Poor income distribution within or between communities would reduce the well-being not only of the communities concerned but of all other economies as well.
- All economic agents are equal in their consumption, however they have different qualifications and each provides the best possible effort. These qualifications form a complete probabilistic set, that is to say, the variance of satisfaction or welfare is null. The returns are then decreasing;
- Every economic agent has been given the best possible education free of charge and occupies the best possible job according to his qualifications; This implies full use of all factors of production;
- Information is perfect and available at no cost, as all economic agents are far-sighted.
- These small economies produce  $n$  goods  $b_1, \dots, b_n$  perfectly identical in each community using  $n$  homogeneous production factors  $a_1, \dots, a_n$  distributed unequally and stochastically;
- Each good is produced with a relative intensity of a separate production factor. In this graph, clothes production is priesthood authority intensive and Sorghum is intensive in power in priesthood;
- Production factors available in fixed quantities are used in full employment in production and optimally. It is assumed that each community produces all goods (partial international specialization).
- The production function is the same in each community for a good; The production functions are homogeneous of degree 1, with constant output of scale and the decreasing marginal productivities;

- The marginal utility of each asset is always decreasing.
- From here, we can define the following expressions:

$CK_d$ : Required  $K$  units per clothes,  
 $CL_d$ : hours of work required per clothes,  
 $CK_b$ : units of  $K$  (hour / machine) required per Sorghum,  
 $CL_b$ : Working hours required by Sorghum,

$K$ : total supply of priesthood authority in the economy,  
 $L$ : total priesthood authority supply in the economy.  
 clothes production is intensive in  $K$ ,  $CK_d / CL_d > CK_b / CL_b$  or  $CK_d / CK_b > CL_d / CL_b$

- The territorial space of the community is defined rationally as is the individual occupation of the subspaces of this space, that is to say according to the individual qualifications; The sub-spaces are occupied by 150 to 200 individuals headed by a superintendent who receives the consecrations of goods and services from the members of the community and organizes the individual stewardships;
- Space is headed by a superintendent supervisor assisted by two other supervisors;
- This superintendent supervisor assisted by both supervisors and a board of 12 senior advisors resolve disputes in each community;
- Everything produced by the small community is either consumed locally or freely exported (without tariffs and transportation costs) to other cheaper goods in other communities and the surplus or gain is re-allocated To the superintendent who in turn transfers the surplus to a global superintendent. The World Superintendent ensures equality of opportunity worldwide by transporting and making available the goods in each community instantly and at no extra cost and without any customs duties. This global superintendent also provides free of charge all general services (education, economic and social infrastructures, information, all transaction costs, all public goods and services and free goods ...);
- All qualifications are perfectly complementary in each community and perfectly substitutable between communities, however there is intercommunity immobility of factors of production, except those managed by the global superintendent;
- All functions of the pure and perfect competition market are thus indirectly secured;
- From all the above, we note that all Ancient Egypt model assumptions are perfectly realized: the invariability of the frontier of production possibilities (because there is an invariability of the supply of factors of production and the intercommunal immobility of the factors of production), Preferences, relative costs, prices, balance and gains in trade. Technical progress, if it exists, does not affect relative prices, trade and exchange gains since it is distributed free and instantly and the surplus is transferred to the global superintendent, pure and perfect competition, full employment of factors Production, zero transport cost, free trade ...
- The well-being of communities and individuals is maximum and invariable in both space and time and superior to the wellbeing of any other economic and social organization as we demonstrate mathematically. In doing so, there is neither poor nor rich. Greed, disease, selfishness, wickedness, injustice, covetousness, jealousy, hatred, statelessness, sociability, societal dwarfism, mental regression and disturbance, cultural obstruction, insensitivity, squint Cultural, sterilization in technicality, dissatisfaction, insatiability, moderate schizophrenia, psychological problems, loss of authenticity and originality, lack of audacity, fanfaronism, idiotic spirit, low consecration, disobedience, unpredictability, Desecration, indolence negligence, risk aversion, evil, tricks, vices, idolaters, envy, discord, quarrels and wars will have lived.

### Expression of the frontier of production possibilities

If the economy produces Wheat and «DVD», it will have used  $cl_1 Q_1 + cl_g Q_g$  "Labor hours and  $ck_1 Q_1 + ck_g Q_g$ " units of capital. This total time of «Labor and «Capital» necessary for the production of the two goods cannot exceed the total supply L of «Labor and the total stock of «Capital» available.

$$\rightarrow cl_1 Q_1 + cl_g Q_g \leq L \text{ and } ck_1 Q_1 + ck_g Q_g \leq K \quad (1)$$

From this it is possible to determine the maximum amount of Wheat or «DVD» that the economy can produce by sacrificing either totally or partially one or the other of the two goods.

$$Q_1 \leq L/cl_1 + K/ck_1 - (cl_1/cl_1 + ck_g/ck_1)Q_g \quad (2)$$

$$\text{or } Q_g \leq L/cl_g + K/ck_g - (cl_1/cl_g + ck_1/ck_g)Q_1$$

$$\text{If } Q_g = 0 \rightarrow Q_1 \leq (L/cl_1 + K/ck_1) \text{ or if } Q_1 = 0$$

$$Q_g \leq (L/cl_g + K/ck_g)$$

The shape of the red curve indicates that the type of determining constraint depends on the combination of the goods produced by the economy: in point 1, the constraint of K limits production; At 2 is work. Thus, changes in the resources of a sustainable economy will have unequal effects on its ability to produce the various goods. An increase in K's supply in the economy, for example, will increase the possibilities of producing clothes rather than sorghum. The reverse being true if the supply of L increases. Changes in the supply of resources in a sustainable economy therefore lead to a biased expansion of production possibilities. This difference in the resources of the economies is at the origin of the international exchange. More generally, any sustainable economy will tend to be relatively efficient in the production of goods which are intensive in factors with which the country is relatively well endowed. This is the basis of the H-O theory. HO's theory of international trade patterns states: "goods whose production requires the use of a high proportion of factors of production that exist in abundance and a small proportion of rare factors are exported to Goods whose production requires opposite proportions of the same factors". Thus, indirectly, it is the factors whose supply is abundant that are exported, while the factors whose supply is limited are imported. In other words, "countries export products that intensively use the factors of production that they have in abundance and import products that intensively use the factors of production which in them are scarce".

Priesthood authority is abundant in a country if the ratio of priesthood authority to other factors is higher than in the rest of the world. A product uses a lot of priesthood authority if the costs in m-o represent a greater share of its value than the share they represent in the value of other products.

This frontier of production possibilities is only indicative, as any community that reaches its frontier experiences miraculous, unlimited production. Any economic agent who reaches his or her human limits is transfigured and will experience a plenitude of satisfaction.

Everything happens in a market of pure and perfect competition (a multitude of competing goods to produce either carnal satisfaction or spiritual satisfaction);

### The Ancient Egypt Model Setup

In the culture of Ancient Egypt, everything was based on the

reproduction of things that existed in heaven or on earth, so that with the Holy Spirit, a righteous and consecrated life, dreams and visions, angels, objects of revelation like the Urim and Thumim, the voice of God, etc., all the sciences were exact, even literature. This is how parables were used to convey a profound understanding of complex phenomena. Let's start with an analogy between biological metabolism and multidimensional trade. For example, to begin our numerical modelling, we would say that multidimensional trade is like biological metabolism, a parabolic reasoning,

Production and consumption of externalities affect the wellbeing of certain organs through the actions of other organs without biological compensation. Production of externalities are explained by the interdependence of organ functioning, whereas consumption of externalities is linked to consumption choices; these externalities can be positive or negative. Clearly, this exchange of externalities is the fundamental mechanism that generates links between growth and volatility. The abbreviated multidimensional exchange model (2x2x2x4), i.e., two countries, two goods, two factors of production, and four generations, resembles the biological mechanism of consumption. The various organs of the organism function in dazzling interdependence, exchanging almost finished products with one another. If we follow the circuits of consumption of goods and services in the human body, many constants attract our attention. This biological mechanism is performed with the help of several neurotransmitter secretion centres, two of which, in particular, spark my curiosity: the functions of the brain and the intestine during the consumption process. These two secretion centres, along with the goods whose consumption activates them, are considered two distinct countries. The neurotransmitters (serotonin and dopamine) synthesized by both centres play important roles in the organism, transmitting the information needed to produce two goods that we call carnal satisfaction on the one hand and cerebral or spiritual satisfaction on the other hand. Therefore, we have two goods (carnal satisfaction and spiritual satisfaction) and two production factors: serotonin and dopamine. Because the secretion centres themselves are made up of cells that renew themselves every month, we have generations of neurotransmitter secretion centres throughout the life of the organism. For simplicity, we consider two generations of secretion centres, although all generations of secretion centres are also considered. This gives us the multidimensional exchange model (2x2x2x4).

In Ancient Egypt model, commerce is necessarily multidimensional, as is every choice, economic agents are as omniscient as the Holy Spirit. This means that the living trade not only with each other, but also with their forebears, for the hearts of fathers will be turned towards their children, and vice versa. This model considers two countries, two goods, and two factors of production, and four generations, each country has a fixed quantity of power in priesthood and priesthood authority, which remains unchanged even after trade opens. Sorghum and cloth, for example, are naturally endowed and pre-endowed with the capacity to induce the production of fixed quantities of serotonin and dopamine (factors of production of satisfaction), i.e., once consumed by a given consumer, they are unchanging. In this way, the individual's immune system controls the production of fixed quantities of serotonin and dopamine. Let us remember that we are dealing with a normal individual, i.e., one whose conduct is regulated, systematic, sober, balanced, irreproachable, addiction-free, with unvarying tastes, in good health and whose characteristic aggregates grow at a constant rate of almost zero. The first, known as the carnal, is predominantly serotonin, whereas the second, cerebral or spiritual,

is predominantly dopamine. In fact, the consumption of a food item controls the production of 90% intestinal serotonin and 10% cerebral serotonin, indicating a partial specialization of secretion centres in the production of both carnal and spiritual satisfactions, exactly as in the factor proportion model.

The individual has at his disposal two secretion centres (the brain and the intestine) producing either dopamine or serotonin with the help of two goods, sorghum or cloth, which are candidates for the production of carnal satisfaction or cerebral satisfaction. Each produces two homogeneous categories of goods (carnal satisfaction and spiritual satisfaction). These goods are produced from two homogeneous factors (serotonin "S" and dopamine "D"): -Each good is produced with a distinct relative intensity in dopamine or serotonin: the production of cerebral satisfaction is intensive in dopamine and that of carnal satisfaction in serotonin. The factors of production available in fixed quantities are used for their full potential in production and in an optimal manner. It is assumed that each secretion centre of the organism (using factor goods) produces both goods (partial specialization).

The production (secretion) function is the same in both secretion centres for a good; the production (secretion) functions are as follows:

Homogeneous of degree 1, with constant returns to scale and decreasing marginal productivities. Production or secretion factors (serotonin and dopamine) are immobile between secretion centres; The marginal utility of each good (carnal satisfaction and cerebral satisfaction) always decreases.

From this, we can define the following expressions: CdC, units of D required for carnal satisfaction; CsC, units of S required for carnal satisfaction; CdS, units of D is required for spiritual satisfaction, CsS: units of S required for spiritual satisfaction D: total supply of dopamine to the brain (controlled production per unit of sorghum), S: total supply of serotonin to the intestine (controlled production per unit of canvas).

The production of spiritual satisfaction is D intensive,  $CdS/CsS > CdC/CsC$  or  $CdS/CdC > CsS/CsC$ .

### Strict Parallel Between the Theory of Multidimensional Exchange and Metabolic Processes

"A metabolic process is a set of chemical reactions that occur in living organisms. There are two opposing types of metabolism: anabolism, where smaller molecules are synthesized to make larger ones, and catabolism, where larger molecules are broken down into smaller molecules composed into smaller ones" (en.lamsience.com/cellular-metabolism-definition). These processes appear to be analogous to multidimensional exchange.

Let us start by denoting by  $\hat{\delta}$  the rate of positive or negative change in dopamine in the body and by  $\hat{\delta}^*$  that of serotonin. The final goods are virtually mobile from one secretion centre to another but not from one secretion centre generation to another, whereas production factors (serotonin, dopamine) are mobile from one secretion centre generation to another but not between current secretion centres at time t1. The mobility of production factors (dopamine or serotonin) is achieved by exchanging positive externalities for negative externalities. Positive externalities are produced when the consumption of a good factor by one neurotransmitter secretion centre enables the adequate functioning

of the other, and vice versa. In the opposite case, negative externalities occur. Bajona and Kehoe's model is compatible with what is described here.

The consumption of one of the two primary products (canvas or sorghum) induces a subsequent wave of dopamine and/or serotonin flow across neurotransmitter secretion centres (generations of neurotransmitter secretion centres).

Their production sites differ across different parts of the body and indirectly between secretion centres. The initial endowment ratio of product i or secretion centre i (where  $y_i$  = neurotransmitter secretion capacity) is equal to  $y_i/Y$  =  $\hat{y}$ , where Y is the body's overall capacity to secrete neurotransmitters. The body uses its  $y_i/Y$  capacity to secrete serotonin and dopamine from secretion centre i to determine which levels and types of satisfaction the individual wants to have and which to export (store) in exchange for importing which levels and types of satisfaction (use). These exports and imports follow metabolic processes (convergent, divergent, complex, anabolic and catabolic) and affect consumer health and life expectancy. The body's capacity to secrete neurotransmitters changes from Y to Y'. The capacity of the intestinal centre becomes  $y'_i$ , and  $y'_i/Y' = \hat{y}'$  becomes the new ratio of neurotransmitter secretion capacity.

The organism uses the new capacities of each secretion center to produce new waves of neurotransmitters destined either for its own carnal satisfaction or for export against an import of spiritual satisfaction. At the end of this first wave, the secretion centers in the organism will have coownership

$$\Delta Y - \Delta Y [\beta + \delta + Y - \Delta Y - \Delta Y [\beta + \delta + Y [\beta + \delta + \beta + \delta + (1 - \beta)]] \quad (1)$$

$\beta$  is the internal absorption rate (absorption per unit of secretion capacity), whereas  $\delta$  is the intensity of the relationship between secretion centers ( $\beta = (C_i + I_i + G_i)/y_i$ ,  $\delta = (x_i + m_i)/y_i$ ).  $C_i$  represents wheat consumption, represents wheat's capacity to produce serotonin, and represents the proportion of wheat consumption destined for serotonin production in the brain. At the start of the second wave, the stock of additional serotonin is

$$\Delta Y - \Delta Y [\beta + \delta + Y [\beta + \delta + (1 - \beta)(1 - \delta)]] \quad (2)$$

The second wave of processes generates dopamine. Neurotransmitter production was calculated as

$$\begin{aligned} & \Delta Y - \Delta Y [\beta + \delta + Y [\beta + \delta + (1 - \beta)(1 - \delta)]] [\beta + \delta + (1 - \beta)(1 - \delta)] \\ & = \Delta Y - \Delta Y [\beta + \delta + Y [\beta + \delta + (1 - \beta)(1 - \delta)]]^2 \end{aligned} \quad (3)$$

At the end of the process waves, the impact on the overall stock of neurotransmitters in the body is equal to the sum of the geometric Progression, with a reason of less than one. This sum can be described as follows:

$$\begin{aligned} & \Sigma \Delta Y - \Delta Y [\beta + \delta + y_{it}/Y [\beta + \delta + (1 - \beta)(1 - \delta)]] \\ & \neq \Sigma \Delta Y - \Delta Y [\beta + \delta + y_{it}/[\beta + \delta + \beta + \delta (-\beta)]] \quad (4) \\ & = \Sigma \Delta Y - \Delta Y [\beta + \delta + Y_{it}] \end{aligned}$$

The multiplier for optimal neurotransmitter production is  $1/[\beta + \delta + \beta + \delta(1 - \beta)]$

As a result, the ratio of dopamine to serotonin is constant. The savings curve of the Slow-Swan golden rule is a point that is in the stationary state. In other words, each generation (secretion centers) fully repays its overconsumption of serotonin via its overproduction of dopamine. Because of the interdependence of all human organs (markets), including the technology market, no generation (secretion) can overconsume serotonin without inventing the appropriate technologies (body adaptation). “As you make your bed, so you lie in it”, or that “nothing is created, nothing is lost, everything is transformed”. Therefore, while production or consumption levels may vary from one generation (secretion center) to the next, the level of satisfaction is always the same at all times and in all places. The latest American generation cannot be happier than Adam and Eve’s generation, hence the futility of outrageous development. For more development of technology endogenization, see Edgeweblime (2019).

At each instant, consumers of product  $i$  decide how much of each of the two goods to consume, how much dopamine to accumulate for the appropriate neurotransmitter secretion center and, consequently, how much serotonin to borrow from the appropriate neurotransmitter secretion centers. Each consumption wave generates neurotransmitter flows throughout the neurotransmitter secretion centers (generations of neurotransmitter secretion centers), which function in a sinusoidal manner, represented as follows:

$$\begin{aligned} \Sigma \Delta y_{it} &= y_{i0} \cos(W_{ij} - \varphi_1) + y_{i1} \cos(X_{it} - \varphi_1) \\ \Delta Y_i &= \Delta Y_{it} = \Sigma \Sigma \Delta y_{it} \end{aligned} \quad (5)$$

The study of periodic functions indicates that each  $P$  periodic motion is a sum of sinusoidal motions whose subperiods are  $P$ ,  $P/2$ ,  $P/3$ ...,  $P/n$ . These represent the harmonics of the system.

Following the proposal of Grossman and Helpman (1991),  $\Phi$  is modeled as the ratio of the total exchange of neurotransmitter secretion control capacities of secretion center  $i$  with secretion center  $j$ . This ratio is calculated for secretion center  $i$ 's bilateral exports and imports divided by secretion center  $i$ 's aggregate production. This ratio is calculated for the bilateral exports and imports of secretion center  $i$  divided by the aggregate production of secretion center  $i$ . This ratio is represented by  $\Phi$ . It is expressed as follows:

$$\left( \frac{P_j(t)}{P_i(t)} L_i(t) g_{ij}(t) + L_j(t) g_{ji}(t) \right) / (L_i(t) y_i(t)), i \neq j. \quad (6)$$

$G_i(t)$  represents the actual imports by secretion center  $i$  of neurotransmitters generated by secretion center  $j$ .  $P_i(t)$  is the price of factor  $i$ , where  $L_i(t)$  is the weight of product  $i$  at period  $t$ .

We now define  $a_{ij}$  ( $0 \leq a_{ij} \leq 1$ ) as a constant, representing the share of serotonin accessible to the secretion center  $j$  that can be imported by product into the dopamine secretion process is attributable to its own ability to control the secretion of this neurotransmitter (dopamine). Using Abramovitz's (1986) social capacity,  $a_{i,s_j}$  determines a product's potential to adopt existing technologies (in this case, its ability to control neurotransmitter secretion). Using these definitions, the accumulation of dopamine due to product  $i$  can be written as follows:

$$X * i(t) = \Phi [\beta + \delta \vdash \Sigma a_{ij} w_{ij}(t) X_j(t)] + (\Phi - \delta X) X_i(t), \quad (7)$$

where  $\Phi$  represents the common neurotransmitter secretion parameter and  $\delta$  represents the rate of dopamine stock depreciation (aging, inhibition, or not). It is assumed that  $\Phi \geq \delta X > 0$ . The measure of the exchange of product  $i$ ,  $w_{ij}$ , with secretion center  $j$ ,  $\mathcal{C}_j(w_{ij})$  is given by

$$W_{ij} = a_{ij} + a_{ji} a_{ir} / i, i. \quad (8)$$

If, as we assume here, the food ratio is balanced and each secretion center maintains a multilateral exchange equilibrium at all times, we have  $L_i(t) \Sigma P_j(t) c_{ij}(t) = \Sigma P_i(t) L_j(t) c_{ji}(t)$  where  $i_w$  and

$\pi_i$  are functions of

$$\hat{a}_{ij} = a_{ij} Q_i / [\beta + \delta \vdash 1 + t_{ij}] \quad (9)$$

where  $t_{ip}$  is the transmission rate of neurotransmitters from secretion center  $i$  to secretion center  $j$ , and  $Q_i$  is the output. Depending on the state of the secretion centers, this speed may be low, normal, or high. The case of normal speed is illustrated by points  $P_0$  and  $C_0$ . The metabolism of the A representative agent is represented by points  $P_0$  and  $C_0$ . The agent produces more dopamine and less serotonin at  $P_0$  than it consumes at  $C_0$ . By consuming the quantities corresponding to point  $C_0$ , he achieves a higher level of utility  $I_0$  than he would achieve by simply consuming what he produces at any point on the production curve. He achieves this level of utility by exporting dopamine in exchange for importing serotonin ( $M_0$ ), according to the ratio of equilibrium food intake values.

If the rate of transmission of serotonin from secretion center  $j$  to secretion center  $i$  is uninhibited, secretion center  $i$  imposes a customs duty on the serotonin imported from center  $j$ ; this increases the dopamine value of serotonin in the areas inhibited by center  $i$  compared with that of normal food intake. This difference in concentration generates.

Osmotic pressures are balanced by transferring resources from the dopamine secretion center to the serotonin secretion center until the marginal cost of producing each unit of serotonin is equal to the ratio of values resulting from osmotic pressure. This situation corresponds to point  $P_1$ .

The cells, for their part, make an adjustment and set their consumption at  $C_1$ , where the ratio of the marginal utilities of the two neurotransmitters is equal to the ratio of the values resulting from osmosis. During this process, the exchange between secretion centers collapsed, and serotonin imports by center  $i$  decreased from  $M_0$  to  $M_1$ .

It is clear from the figure that this obstacle to the circulation of serotonin reduces well-being. At point  $C_1$ , the representative agent only obtains utility level  $I_1$ , which is lower than the  $I_0$  achieved under equilibrium food intake.

The representative agent records an overall loss made up of the “effect on serotonin production” (the switch from  $P_0$  to  $P_1$  (production cost higher than the equilibrium serotonin value)) and the “effect on consumption” (the difference in osmotic pressure forces cells to bring their consumption to a point where the indifference curve is tangent to the ratio of values resulting from osmotic pressure to point  $C_1$ ). This overall loss, which is made up of two effects (b and d), corresponds to the results obtained via the supply and demand curves. Indeed, the vertical

and horizontal projections allow us to represent the production and consumption of dopamine (bottom or vertical projection) and serotonin (horizontal projection). slowing the transmission of serotonin from center  $j$  to center  $i$  is a tax on the export of dopamine from center  $i$  to secretion center  $j$  and therefore a deceleration in the transmission of the neurotransmitter dopamine, a kind of disruption of the organism's efficiency frontier affecting the individual's well-being and life expectancy. In this respect, following the work of Pataky et al. (2021), "The gradual and progressive age-related decline in hormone production and action has a detrimental impact on human health by increasing risk for chronic disease and reducing life span." These authors have also shown how hormonal changes expose people to various diseases, such as diabetes, frailty and cardiovascular disease. Other authors like wildly studied these aspects. Lamberts et al. (1997), Greendale et al. (1999), Tomczak & Stachowiak (2015).

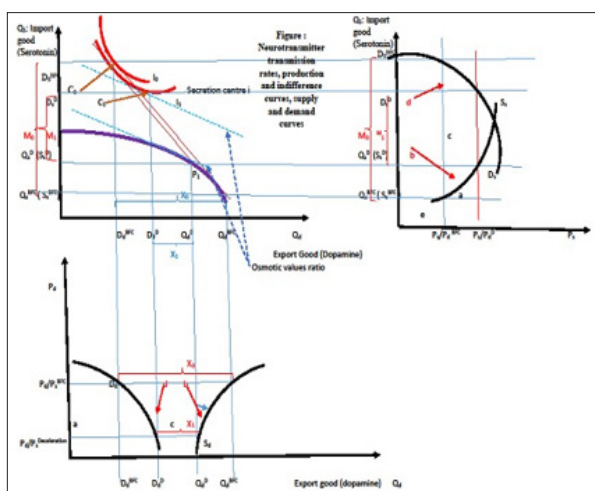
Considering the dynamic behavior of the secretion center  $i$ , the specification of the transversality condition

$$\lim_{t \rightarrow \infty} k \exp\left(\int_0^t [\beta + \delta - f'(k) - \delta - x - n] dv\right) \text{ gives}$$

$$X^*(t) = \Phi \cdot X(t) \quad (10)$$

where  $X^*(t) = X_1(t), \dots, X_j(t)$

The transversality condition is deduced from Hopf's bifurcation theorem. According to this theorem, there is a local birth or death of a periodic solution from an equilibrium point if a parameter crosses a critical value. We use the transversality condition to ensure that the eigenvalues of the bifurcation theorem cross the imaginary axis at a nonzero speed. In biology, this condition is essential for understanding stable changes and the appearance of periodic solutions in dynamical systems. Herlenius and Lagercrantz (2011) reported that "In particular, at birth a cascade of neurotransmitters and transcription factors is activated. For example, the norepinephrine surge at birth may be important for initiating the bonding of the infant to the mother by increasing the ability to sense odors (Sullivan et al., 1994). Imprinting at birth and visual input to form the ocular dominance columns also occur during critical periods and are probably dependent on the switching on and off of neurotransmitters". Figure 1 describes this condition through neurotransmitter transmission rates and production over different stages of life of a human individual.



**Figure 1:** Neurotransmitter transmission rates, production and indifference curves, and supply and demand curves (see Tables and figures file)

DdBFC: Balanced Dopamine or Balanced Food Consumption  
 DdD: Dopamine production during transmission deceleration  
 QdD: Dopamine production in equilibrium food ratio  
 QdRAE: Dopamine production in equilibrium food ratio

$$\lim_{T \rightarrow \infty} \{k \exp(\int_0^T [\beta + \delta - f'(k) - \delta - x - n] dv)\} \text{ gives } X^*(t) = \Phi \cdot X(t), \quad (14)$$

Considering the dynamic behavior of the secretion centre  $i$ , the specification of the transversality condition  $\lim_{T \rightarrow \infty} \{k \exp(\int_0^T [\beta + \delta - f'(k) - \delta - x - n] dv)\}$  gives  $X^*(t) = \Phi \cdot X(t)$ , (14) where  $X^*(t) = X_1(t), \dots, X_j(t)$  and

The transversality condition is deduced from Hopf's bifurcation theorem. According to this theorem, there is a local birth or death of a periodic solution from an equilibrium point if a parameter crosses a critical value. We use the transversality condition to ensure that the eigenvalues of the bifurcation theorem cross the imaginary axis at a nonzero speed. In biology, this condition is essential for understanding stable changes and the appearance of periodic solutions in dynamical systems. Herlenius E and Lagercrantz H (2011) reported that "In particular, at birth a cascade of neurotransmitters and transcription factors is activated. For example, the norepinephrine surge at birth may be important for initiating the bonding of the infant to the mother by increasing the ability to sense odors (Sullivan et al., 1994). Imprinting at birth and visual input to form the ocular dominance columns also occur during critical periods and are probably dependent on the switching on and off of neurotransmitters". Figure 1 describes this condition through neurotransmitter transmission rates and production over different stages of life of a human individual. Furthermore, by studying the equalization of the biological value of all exchanges, we can better understand the mechanisms of hormonal imbalance, the latter (biological value). Hormones are chemical messengers that regulate essential biological mechanisms so that a more or less permanent overall balance is maintained in a normal individual. However, hormonal imbalance can occur. For example, growth hormone regulates all metabolic and physiological processes so that a deficiency in the production of this hormone (due to acquired or inborn dysfunction of the pituitary gland) affects the physiological development of the individual, with numerous pathological consequences. For more details on these issues, see the work of Copeland JL et al. (2002), Heaney JL and Carroll D, Phillips AC. (2013), Aldred S, Rohalu M, et al. (2009), Sutton J, and Lazarus L. (1976 or Raynaud J et al.(1983).

Referring to the work of Vigié C. et al. (2012) on endocrine disruptors: consumer issues and scientific challenges, I begin with individuals consuming multiple products. Therefore, I can consider multiple interferences. In this case, if the R-rays are  $(R=R_0, R_1, R_2, \dots, R_p)$  with a neurotransmitter amplitude  $\tau$  ( $\tau^2, \tau^2 p^2,$

$$\tau^2 p^4, \dots, \tau^2 p^{2p}) \text{ and the phases are } (0, \Phi + 2fr, 2\Phi + 4fr, \dots, p\Phi + 2pfr), \text{ the induced amplitude is } A = \tau^2 + \tau^2 p + \tau^2 p^2 e^{-j(\Phi + 2fr)} + \tau^2 p^4 e^{-j2((\Phi + 2fr))} + \dots + \tau^2 p^2 e^{-jp^2(\Phi + 2fr)}, \quad (15)$$

$$= \tau^2 / (1 - p^2 e^{-j\Phi}), \quad (16) \text{ and}$$

$$\Phi' = \Phi + 2fr. \quad (17)$$

The Strict Parallelism Between the Theory of Intra-Generational Exchange in A Nation and The Generations of Secretion Centres in Metabolic Processes

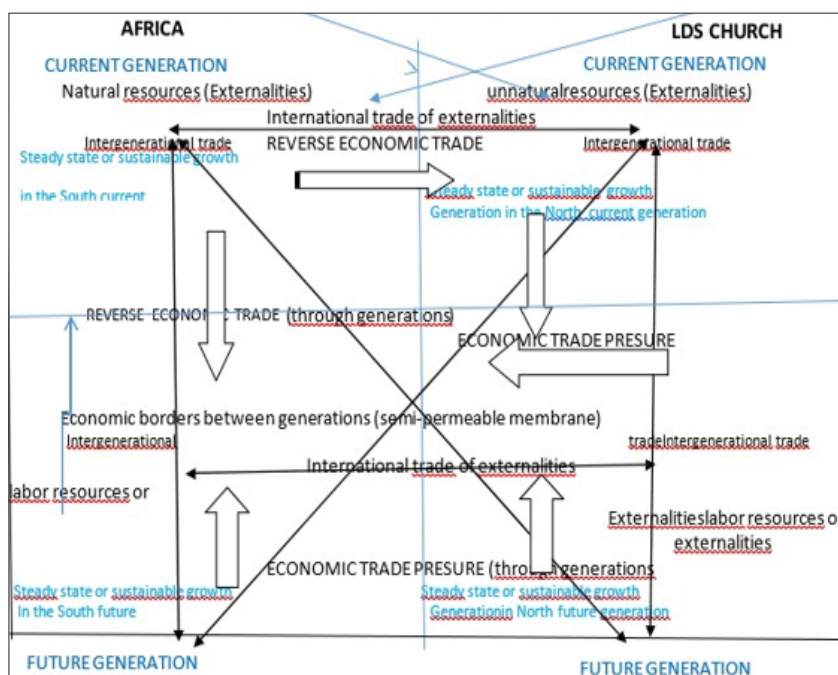


There is a process of cell periodic renewal in a human organism, but much less or none for secretion centers. Nevertheless, the three-phase weakening of secretion centers allows us to postulate the existence of generations of secretion centers. “The aging of an individual leads him to 3 states: vigorous, poly-pathological and dependent or frail”. If every state involves cell renewal, we are indeed in the presence of a new generation of secretion centres in each state, with new neurotransmitter secretion capacities.

### Narrative Component

Thus far, I have analyzed the relationships among primary goods (clothing and sorghum), secretion centres, and carnal and spiritual satisfaction. The consumption of these primary goods triggers metabolic processes in humans, the function of which is considered analogous to the factor proportion model. However, we have not considered the process of cell renewal, which affects the

secretion capacities of the centres. Thus, there is a new type of exchange between these secretion centres throughout the life of the organism. The exchanges described were superficial since they only concerned the primary relationships between current secretion centres and elementary consumer goods, so the exchange of neurotransmitters between secretion centres was only virtual. An exchange of neurotransmitters between current and future secretion centres is inevitable because the latter have different comparative advantages due to the variation in their capacities to secrete dopamine and serotonin over time. This variation in secretion capacity is attributable either to endogenous internal metabolic processes or to the adoption of new behaviours related to increasing medical progress (exogenous processes). To fully understand this aspect, we assume the existence of debts and receivables between current



**Graphic 2:** Multidimensional Trade Description Or Ancient Egypt Economic Model Restoration In Africa ( Osmosis Model As Sustainable Growth Mechanism)

The factorial endowments difference between two generations/countries creates pressure difference (TRADE pressure) across a separating semi permeable border. Solvent (Populations) immigration takes place from the lower endowed generation/country to that of higher wealth, until equilibrium is reached. The equilibrium economy (steady state or sustainable development) has the same concentration of wealth both inside and outside the borders. In economics, this state is achieved when international and intergenerational leveling out of all prices is realized avoiding any growth volatility.

As Prof. Agid explained, inappropriate behaviour in terms of the consumption of primary goods (canvas and sorghum) generates negative

Externalities that can affect our hormonal balance. As in the universe, global warming is perceived as an externality of production or consumption by certain economic agents.

The potential for inhibition or disinhibition of brain regions due to neurotransmitter shortages or excesses describes interactions between Current and future secretion centres. We therefore consider the following model: let us denote by  $\partial$  the rate of positive or negative change in dopamine due to the evolution over time of the body’s capacity to secrete this neurotransmitter and by  $\partial^*$  under the same conditions, that of serotonin. Final goods (the level of satisfaction achieved by an individual in consuming a primary good) are directly mobile between current and future secretion centres in terms of approximately integral compensation between neurotransmitters over time. An individual’s good consumption habits improve, or at least preserve, good secretion capacities for future generations of secretion and future secretion centres, as an individual’s consumption habits today can positively or negatively affect the neurotransmitter secretion capacities of future secretion centres. Consequently, each secretion centre operated under intertemporal autarky conditions. Each secretion centre has a different but partial specialization, insofar as what happens in the gut, for example, can influence cerebral serotonin activity, just as the substantia nigra reticulata (SNr) is composed mainly of GABAergic neurons but also of dendrites of dopaminergic neurons originating from the SNc. When the body lacks dopamine, the essential functions mentioned above are inhibited, whereas excess dopamine is often associated with psychiatric disorders. Likewise, because serotonin serves to inhibit many areas

of the brain, the same areas are "uninhibited" when there is too little serotonin. In humans, impulsive, aggressive, or even violent behavior is generally associated with abnormally low serotonin levels. Serotonin could thus potentially be involved in the whole aging process via its links with various organs and the immune system in particular, as noted by Prof. Agid.

centres. In the same way, poor consumption habits degrade the secretion capacities of future generations of secretion centres. Similarly, secretion centres that negatively affect an individual's life expectancy through difficult living conditions (negative externalities) can transmit a certain degree of immunity (positive externalities). The mobility of production factors (dopamine or serotonin) is achieved by this exchange of negative externalities for positive externalities.

### Analog Specification

Inter-secretory centre exchanges are based exclusively on production factors and technology. Technology is therefore considered a productive factor, and its production depends only on the current capacity of the neurotransmitter secretion centre to hoard serotonin. The technology production function  $T(t) = (G(\rho), E(t), N(t))$  is neoclassical, with the usual properties.

Let us consider two secretion centres in a human organism. The serotonin secretion centre is represented by (Gs), and the dopamine secretion centre is represented by (Gd). The two secretion centres are separate. According to Max Lugavere, the author of Brain Nutrition, "Serotonin produced in the intestines does not cross the blood-brain barrier (international immobility here, "inter-secretion centres" of the production of neurotransmitters, "here, serotonin"). However, what happens in the gut can influence brain serotonin activity through its ability to modulate inflammation. Therefore, there is direct exchange of brain serotonin for dopamine in the substantia nigra pars reticulata (SNr), which is composed mainly of GABAergic neurons, as well as dendrites of dopaminergic neurons from the SNc. Thus, each secretion centre has different initial endowments, which are interdependent. We assume that all the secretion centres of an organism are co-owners of the neurotransmitters available at each instant, whose yield in terms of the organism's life expectancy is estimated at  $y^i$ . If the compensation between brain serotonin and SNr dopamine is complete, i.e., just sufficient to ensure the vital functions of the organism so that it lives for  $y^i$  years, i.e., 100 years, we say that there is hormonal coherence or balance and that the prescribed life expectancy can be achieved. Otherwise, there is an exchange of externalities that are necessarily harmful to the organism, and life expectancy decreases. If the life expectancy of a representative agent was in the first period, then it would decrease, for example, according to a coefficient of non-compensation of neurotransmitter exchanges varying from  $n=0$  to 1.2, since, as some studies assert, "any death before the age of 120 is a premature death. Moreover, if the life expectancy at birth of each secretion centre is from the first period, the life expectancy at birth of the organism is equal to  $100n$  years; over the course of its life, each secretion centre lends and borrows neurotransmitters from other secretion centres in more or less appropriate proportions (this lending and borrowing of neurotransmitters between secretion centres can be likened to exporting and importing). Consequently, the total amount of serotonin in a secretion centre in the first wave is equal to

$$\frac{\Delta y^i}{\Sigma S'_j} n + \Sigma S'_{j1} \quad (15)$$

$\Sigma S'_{ij}$  is the import of the first generation of secretion centres borrowed from subsequent generations (imported).

The second generation, at the beginning of the second period, is given by:

$$\frac{\Delta y^i n}{1} - S_{21} + k_{12} + \dots + \Sigma S'_{j2} \quad (16)$$

where  $k_{12}$  represents the quantity of dopamine reimbursed from the first to the second generation.  $k_{12}$  must be equal to  $S_{21}$ .  $k_{12}$  represents

Exports from the first generation to the second generation, and  $S_{21}$  imports from the second generation to the first generation. The total serotonin quantities for the last generation are equal to

$$\frac{\Delta y^i}{1} n - \Sigma S_{ni} + \Sigma k_{in} = \frac{\Delta}{1} n = S + K_n \quad (17)$$

The first generation uses all of its serotonin (dopamine) to compensate for the body's various deficiencies and to produce

Neurotransmitters for their own function. At the end of the first period, the second and subsequent generations have joint ownership.

$$\Delta y^i - \Delta y^i [\beta + \delta(1 - \beta)]. \quad (18)$$

$\beta$  is the self-consumption ratio (consumption per neurotransmitter unit), whereas  $\delta$  is the neurotransmitter ratio the share Of neurotransmitters to be returned to future generations).

At the start of the second period of an organism's life, the remaining quantities of serotonin are

$$\Delta Y \Delta Y [\beta + \delta \mid y^i [\beta + \delta \mid (1 - \beta)(1 - \delta)]] \quad (19)$$

The quantities of neurotransmitters in the second generation are given in equation (16). This generation proceeds as the first and at the

The remaining quantities of serotonin are given by  $\Delta Y \Delta Y [\beta + \delta \mid y^i \mid i [\beta + \delta \mid (1 - \beta)(1 - \delta)]] - \Delta Y - \Delta Y [\beta + \delta \mid y^i \mid i [\beta + \delta \mid (1 - \beta)(1 - \delta)]] [\beta + \delta \mid \beta + \delta(1 - \beta)] = \llbracket \Delta y^i y^i \mid i [\beta + \delta \mid (1 - \beta)(1 - \delta)] \rrbracket^2$ . These are primitive neurotransmitters of the third generation. At the start of the body's third life period, the remaining quantities of serotonin are as follows:

$$\llbracket \Delta y^i \mid i [\beta + \delta \mid (1 - \beta)(1 - \delta)] \rrbracket^2 \quad (20)$$

We note that the new quantities of serotonin follow a geometric progression, with  $(1 - \beta)(1 - \delta)$  as the reason

The initial serotonin quantities of the  $n$ th generation are as follows:

$$\Delta Y - \Delta Y [\beta + \delta \mid y^i \mid i [\beta + \delta \mid (1 - \beta)(1 - \delta)]]^{(n-1)}. \quad (21)$$

The total amount of new serotonin is equal to the sum of the geometric progression for reasons of less than one. The limit of this sum is given by the following expression:

$$\Delta Y - \Delta Y [\beta + \delta \mid y^i \mid i [\beta + \delta \mid (1 - \beta)(1 - \delta)]] = \Delta Y \Delta Y [\beta + \delta \mid y^i \mid i [\beta + \delta \mid \beta + \delta(1 - \beta)]] = \Delta Y - \Delta Y [\beta + \delta \mid y^i]. \quad (22)$$

The optimal growth multiplier is  $[\beta + \delta \mid \beta + \delta(1 - \beta)]$  (23)

In this way, each exchange wave generates neurotransmitter flows across generations, following sinusoidal functions such as  $\Sigma \Delta y_i t$

$$= y^i_0 \cos(Wi j t - \phi_2). \quad (24) \quad \Delta Y^i t = \Sigma \Delta y^i t. \quad (25)$$

The sinusoidal shape is due to the law of value added in each generation. When a good (in particular a productive factor) is imported into a secretion centre, its value added increases in terms of life expectancy during the first period and decreases as cells age or as a result of the inhibition–disinhibition process. Starting at the age of 30, a decrease in organ function can be observed. Guilbaud A. et al. reported that “the aging of an individual leads him to 3 states: vigorous, poly-pathological and dependent or frail. The state of fragility is reversible. We have to be an actor in our aging and no longer suffer it. The centenarians of the blue zones have achieved, culturally, active aging, which has led them to successful aging.” Although nerve cells can last a lifetime, the different phases of their aging are considered in this paper as successive generations of neurotransmitter secretion centres. Indeed, with age, there are changes or decreases in neurotransmitters due to behavioural, physiological or environmental factors.

The sinusoidal shape is also explained by the different comparative advantages of the secretion centres, leading to differences in the gains from the exchange (increases and decreases in neurotransmitter values in the different centres over time and in the eating and other habits of the representative agent).

Studies of periodic functions indicate that every periodic motion P is the sum of sinusoidal motions with p, p/2, p/3..., p/n as subperiods.

These represent the harmonics of the system...  $W^{ij}(t)$  is the ratio of generation i's total trade with generation j (i.e., generation i's bilateral exports and imports divided by generation i's aggregate production) is represented as follows:

$$W^{ij} = \frac{\frac{P_j(t)}{P_i(t)} L_i(t)g_j(t) + L_j(t)g_i(t)}{L_i(t)y_i(t)} \quad i \neq j \quad (26)$$

$G_{ij}(t)$  represents the actual consumption per secretion centre of generation i of neurotransmitters of generation j.  $P_i(t)$  is the value of factor i, and  $L^i(t)$  is the quantity of neurotransmitters of generation i in each period t.

We now define  $a_{ij}$  ( $0 \leq a_{ij} \leq 1$ ) as a constant, representing the share of generation j's accessible serotonin (dopamine) that can be consumed by

Generation i as a part of its own serotonin (dopamine). According to Abramovitz (1986), social capacityair determines a generation's potential to adopt

Existing technologies. Using these definitions, the quantities of dopamine accumulated by generation i can be written as follows:

$$X^{*i}(t) = \Phi [\beta + \delta] \Sigma a_{ij} w_{ij}(t) X_j(t) + (\Phi - \delta X) X_i(t), \quad (27)$$

where  $\Phi$  represents the productivity parameter of common neurotransmitter secretion and  $\delta X$  represents the aging rate of dopamine or serotonin.

Stock (obsolete or not), assuming  $\Phi \geq \delta X > 0$ . The measure of the exchange of generation  $G_i$  with generation  $G_j$ ,  $W_{ij}$ , is as follows:

$$W_{ij} = a_{ij} + a_{ji} i/j, \quad i \neq j \quad (28)$$

Assuming that each generation maintains a multilateral equilibrium at each instant, we have  $L_i(t) \Sigma P_j(t) c_{ij}(t) = \Sigma P_i(t) L_j(t) c_{ji}(t) \quad i \neq j$

where i is a function of  $\hat{a}_{ij} = a_{ij} Q_i / [\beta + \delta] [1 + t_{ij}]$ ,  $t_{ij}$  is the rate of flow of imports from generation i to generation j, and  $Q_i$  is the total

Secretion of neurotransmitters. Taking into account the dynamic behaviour of generation i, the specification of equation (33) gives  $X^*(t) = \Phi \cdot X(t)$ , where  $X^*(t) = X_1(t)$ ,  $X_j(t)$  and, for example, subsequent generations use serotonin intensively in the production of carnal satisfaction or indirectly transmit carnal satisfaction to the current generation in exchange for intensive use of dopamine in spiritual satisfaction. This exchange occurs at the end of their lives or indirectly via spiritual satisfaction. Although the organism did not benefit from this degree of spiritual satisfaction during the previous generation, the latter indirectly ced this degree of satisfaction to the current generation (the organism's current state) by providing it with the neurotransmitters needed to produce this degree of spiritual satisfaction (positive externalities).

#### Strict Parallelism Between the Theory of Multidimensional Exchange and Metabolic Processes

##### Assumptions Common to Exchange Between Consumed Goods and Secretion Centres

A1- The goods produced (degrees of satisfaction) available in fixed quantities in each generation are used for full consumption.

During each generation and in an optimal manner;

A2- At the opening of exchanges, quantities of neurotransmitters are immobile (mobile) between consumed goods (generations) but mobile (immobile) across generations (goods); produced goods are mobile (immobile) between consumed goods (generations) but immobile (mobile) across generations (goods).

A3- The exchange of neurotransmitters is characterized by perfect competition; quantities of serotonin can be used interchangeably in all productions; there is full employment in both goods and both generations;

A4- The satisfaction production function is the same for both goods and both generations; the production functions are homogeneous for degree 1, with constant returns to scale and decreasing marginal productivities; however, the satisfaction production technique is different.

A5- The marginal utility of each satisfaction is always decreasing. A6- Neurotransmitter transport costs and other barriers to exchange are zero.

A7- The two goods consumed exchange only the satisfaction they produce; this satisfaction is perfectly mobile between the goods consumed (in the organism; in two generations (secretion centres), exchange only serotonin (dopamine) for dopamine (serotonin), these neurotransmitters are perfectly mobile between the secretion centres;

A8- Each satisfaction is produced with a different relative intensity of serotonin and dopamine. The production of spiritual satisfaction is

Dopamine is intensive, and carnal satisfaction is serotonin intensive.

Our hypothesis contradicts Ancient Egypt model of international exchange. We propose that only the factors of production can be traded,

However, the final goods (satisfactions) cannot be stored.

### Steady State (or Adult Age)

If we consider that a generation of secretion centres that changes its serotonin management and, therefore, its ability to secrete, simultaneously acquires or loses the ability to secrete serotonin efficiently, it will pay back (transfer) to future generations of secretion centres a higher (less) level of technology (ability to secrete), we have  $\delta = (\partial g_{ij}(t) + \partial' g_{ji}(t)) / (y_i(t))$  (30).

In this model, the net increase in the stock of dopamine at any given time is equal to the capacity to secrete raw dopamine minus the rate of cell aging plus miscellaneous effects (improvement in the general level of consciousness, advances in medicine and knowledge). If one generation grows at the rate of  $N_i$ ,  $K$  increases in parallel, increasing the productivity of subsequent generations. The marginal secretion of  $K$  should be equal to the intergenerational transfer rate,  $I_{gc} = S_{gf}$ . The rate of transfer is determined by the first generation, who determines how much serotonin future generations should use to produce satisfaction. This overconsumption of serotonin constitutes the consumption of the current generation and a debt to be paid to future generations in terms of dopamine. Insofar as serotonin serves to inhibit many areas of the brain, the same areas are "disinhibited" when there is too little serotonin. In fact, in these cases, dopamine-secreting capacities are spared or overused, depending on whether the current generation secretes more or too little serotonin. The more serotonin the current generation overconsumes, especially if it consumes a high level of carnal satisfaction, the more it should improve its secretory capacity and provide a higher level of secretory technology (ability to secrete) to future generations, thus ensuring that  $I_{gc} = S_{gf}$ . It is not possible to have  $I_{gc} < S_{gf}$ , or vice versa.  $I_{gc}$  is the current generation's ability to secrete, whereas  $S_{gf}$  is a stock of future generations' ability to secrete. Since the production function of technology is neoclassical, technology clearly decreases over time.

### Conditions and Equilibrium Conditions

The technical production function  $T(t) = (G(\rho), E(t), N(t))$  is neoclassical and has the following properties:  $g(\cdot)$  exhibits constant returns to scale, i.e.,  $G(\lambda E, E, \lambda N) = \lambda G(E, N)$ , a property that is also known as degree-one homogeneity in  $E$  and  $N$ . When a secretion centre chooses an initial secretion that is different from  $W$ , it must compensate for the overconsumption of serotonin with an

Equivalent supply of dopamine to establish or maintain a constructive multidimensional exchange. Otherwise, the secretion centre and the organism may experience a hormonal imbalance. This hormonal imbalance varies according to the differential between effective secretion ( $W_i$ ) and initial optimal secretion and the sensitivity of interdependencies between secretion centres. As a result, the FPP of the secretion centre shifts around the organism's technological frontier. The derived growth is not Pareto optimal (see Figures 1 and 2).

### Equilibrium

The function of the hormonal imbalance between secretion centres is described as follows:

$$X_f - X = f(W_f - W, \theta'). \quad (31)$$

$\theta'$  is the inter-centre sensitivity factor. Hormonal imbalance becomes explosive (through other secretion centres) if the intercentre interdependencies are highly sensitive. In pure economics, Hsieh and Klenow (2009) and Klenow (2012) examine this point in detail. They used micro data from manufacturing establishments to quantify and compare potential resource misallocation between the USA and India. Research has indicated that resource misallocation can reduce total neurotransmitter productivity (TTP) and growth.

For the same reasons, when a generation initially chooses a secretion different from  $W$ , it must compensate for its overconsumption with an equivalent supply of dopamine. This will maintain or establish a constructive multidimensional exchange. If this compensation is not made, the generation and the organism suffer a potentially significant hormonal imbalance. This hormonal imbalance varies with the differential between effective secretion ( $W_i$ ) and optimal initial secretion, as well as the sensitivity of intergenerational interdependencies. As a result, the generational PPF shifts around the organism's technological frontier. The derived growth is not Pareto optimal (Figures 1 and 2). The intergenerational hormone imbalance function can be described by the following relationship:  $(X_f - X) = f(W_f - W, \theta')$ , (32) where  $\theta'$  is the intergenerational interdependence sensitivity factor. Hormonal imbalance becomes explosive (across other centres and generations) if the interdependencies are particularly sensitive. The factors of hormonal imbalance in the centres of secretion and generation (neurotransmitters and satisfactions) are the values, quality, and flexibility associated with them.

In general, the process of adjusting values, qualities, and quantities is widely described for inter-centre and intergenerational exchange. The values of goods stabilize, as does the quality of neurotransmitters in all secretion centres. We conclude that there is convergence toward a constant rate of equilibrium growth, where the serotonin and dopamine stocks are above their equilibrium levels. At general intergenerational equilibrium, all values will stabilize because their variations are symmetrically opposite in different periods. Productive factors in intergenerational exchange reduce the levels of scarce neurotransmitters in each period and enable the production of satisfaction consumed in a given period. The decline in the values and quality of satisfaction and neurotransmitters in a given period enables the consumers and producers of a given period to benefit from the gains of intergenerational exchange. As we can see, this general case is the rule, but many factors, such as hormonal imbalances in certain organisms (due to poor consumption habits), shift PPFs in such a way that the directions taken by these movements in each secretion centre and/or generation interact with intercentre or intergenerational exchange to determine long-term growth per neurotransmitter. The direction of these movements depends on how consumption patterns and other shocks influence neurotransmitter allocation. Neurotransmitter levels may rise or fall, and secretion technologies or the marginal rate of neurotransmitter substitution between generations may change. Even if only the difference in neurotransmitter evolution of one secretion centre /generation leads to a change in comparative advantages and the organic/intergenerational pattern of exchange,

these differences in satisfaction and neurotransmitter values should disrupt the relationship between growth and hormonal imbalance. The relationship between growth and hormonal imbalance should then depend on these movements and their interaction within central secretion and intergenerational exchange. According to King et al. (1988), temporary disruption of PPFs can have permanent effects on the trajectory of secretion growth. The extent and nature of these effects depend on the type of disturbance.

### **Biological Model Calculation**

At this stage, when the analogy is clearly established between multidimensional exchange and the biological metabolism of neurotransmitters secretion and transmission, the final step is to develop the statistics of the biological variables in the analogical model, in order to determine the estimators. Finally, the two types of analog estimators (multidimensional exchange and biological model) will be converted into numerical estimators using appropriate converters. However, in this paper, we do not yet have the appropriate statistics for this calculation.

### **3-Restoring Ancient Egypt**

In the ancient Egyptian model, faith in God is the cornerstone without which everything would crumble. Likewise, a return to this model implies first and foremost the restoration of faith, and consequently the restoration of all aspects of the model described. Now, the apostasy and restoration of the Egyptian model had also been predicted in Jacob 5:

The prophecy has probably come to an end, and as with the things of faith, is self-fulfilling without the help of any hand. God himself was formed without the help of any hand, just like Jesus Christ or the stone that comes loose without the help of any hand in Daniel 2:34, and Econometric Society is going to enter history by participating in the fulfillment of prophecy by initiating this colloquy. Africa, or the House of Israel, is considered the olive tree, and the Church of JESUS CHRIST of Latter-day Saints and America the wild olive tree. By grafting the wild olive tree onto the free olive tree, Africa will recover its true identity, its model and bear great fruit.

**Osmosis Process and The Restoration of Ancient Egypt** In osmosis process, the concentration difference between two solutions creates pressure difference (osmotic pressure) across a separating semi permeable membrane. Solvent (water or fluid) transport takes place from the more diluted solution to that of higher concentration, until equilibrium is reached. The equilibrium solution (isotonic solution) has the same concentration of solutes both inside and outside the cell. This phenomenon shows that there is everywhere in nature a powerful pressure for the equilibrium. Thereby, the phenomenon of osmosis poses the general problem of the optimality of the relations between the various parts of nature. When in a given compartment of nature the relations between parts are not optimal or at least such as they were originally programmed, nature seeks to restore them automatically so that a physical or social disease is quite simply the appearance of unforeseen relationships between entities. But, like other natural phenomena, osmosis can also multiply either desirable or pathogenic states. This phenomenon which is related to the law of attraction or correspondence or the great law of restoration is present in everything in the nature. This higher law of the universe seems to be the very foundation of creation. Let's see how this law works in the real world as a therapy. During thirty three years of teaching the Neoclassical model in several universities and as bishop and stake president of the Church of JESUS CHRIST of Latter-day Saints, I observed

carefully how the two organizations are using osmosis principle as therapy to heal psychological, social or economic diseases. Insofar, the optimality or perfection is the fundamental paradigm of Neoclassical and the Church of JESUS CHRIST of Latter-Day Saints programme, a scientific comparison of the theory and behaviour of the two organizations can reveal many therapeutic methods crucial to this very seek world.

Really, the most powerful and complex model that science has ever discovered, the Neoclassical model, is considered impossible to implement. After the works of Adam Smith, Ricardo, Mill, Jevons, Walras etc., Alfred Marshall added his theses and declared, like the apostle John of the book of Revelation: "There is nothing more to add to economics, there is nothing to subtract". No mathematical model has been deemed sufficiently powerful to interpret the Neoclassical model. Even Léon Walras' general equilibrium (isotonic or optimal relations state) model, very mathematical, is only a pale interpretation. However, since 1830, the leaders of The Church of Jesus Christ of Latter-day Saints, mostly ordinary men, and sometimes illiterate, have unconsciously implemented in minute detail this greater scientific model. If one could scientifically prove that an organization apart from the Neoclassical school wrote and implemented the fundamental principles of marginalism, from divine revelation alone, one would draw invaluable lessons on the sciences, on the religions and governance. The scientific confirmation of this hypothesis would be the certain proof of the existence of two great sources of Truth: divine revelation and scientific experimentation and, at the same time, would be a powerful testimony of the reality of God, of the divinity of prophets. Therefore, the Neoclassical model would be the most complete scientific proof of the veracity of the doctrine of the Church of JESUS CHRIST of Latter-day Saints. On the other hand, the Church of JESUS CHRIST of Latter-day Saints would be the living proof of the veracity and the divinity of the Neoclassical model contrary to what many economists, and not the least, have always thought. Therefore, there would exist two possible interpreters or witnesses of the Truth: science and divine revelation; Any model contrary to the Neoclassical model would be a scientific apostasy (irrational) leading to aberrant results, under optimum. Optimality would not only be possible mathematically but also in the real world and that, since there is only one optimality situation, there is only one multidimensional school, a only multidimensional Church, that is to say a school or Church whose decisions, actions are fully revealed, making it possible to reach an equilibrium (isotonic or optimal relations state) in the sense of Pareto, the mixture of the tares and the Truth in the current unidimensional school is and always has been the key to the rout of the world and is necessarily of diabolical origin, the enemy of all Justice. An equilibrium in the sense of Pareto is a state of the economy where one cannot improve the situation of any economic agent without deteriorating that of another economic agent. The progress of one or the other school (Church) would constitute a wealth of the other. By this very fact, any true scientist would be a saint and any saint would be a scientist.

### **Osmosis in Practice in The Church of Jesus-Christ of LatterDay Saints for Ancient Egypt Restoration in Africa**

In the Church of JESUS CHRIST of Latter-day Saints, which is the true repository of the heritage of Ancient Egyptian culture, the conversion process we call osmosis is simple. The people who decide to adopt the culture of Ancient Egypt must renounce themselves, i.e. their own culture, and rigorously follow the new culture proposed to them. The process begins with faith in JESUS CHRIST, repentance, baptism, the gift of the Holy Spirit,

priesthood, endowment, sealing and enduring to the end. Enduring to the end is a lifelong learning and application of laws, principles, covenants and ordinances to achieve a great change of heart, which restores the original identity lost through culture shock. Cultural diseases inherited from elsewhere are literally healed.

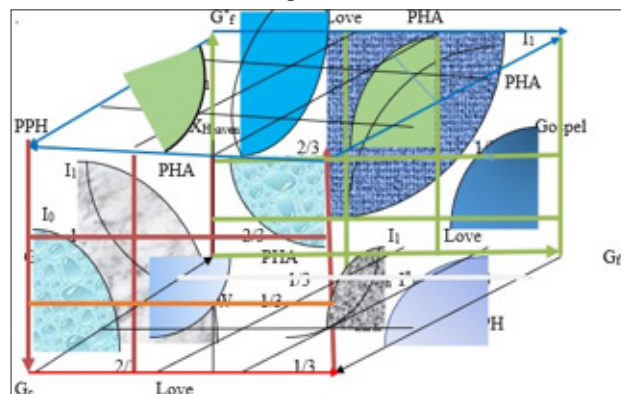
Consider a world of two countries “the Church of JESUSCHRIST of Latter-Day Saints” or LDS Church and Africa and two generations in each country, the "living generation" or the present generation and all the other generations of the past called "world of silence" or "dead world", two goods, « Love » and « Gospel » and two factors of production : « Priesthood authority » and « power in priesthood » and see how trade between these two countries and between the two generations has changed over the years prices and quantities produced and consumed by all generations. and how Africa and the LDS Church become the same country. The LDS Church (The silent or dead generation) is seen as relatively well endowed with « Priesthood authority » and Africa (Living World) with power in priesthood. At the beginning of multidimensional trade, LDS Church (Silent World) will export « Priesthood authority » (indirectly « Gospel » produced with a high-intensity of priesthood authority) and import « power in priesthood » (indirectly « Love », produced with a high proportion of « power in priesthood » from Africa (Living Generation). The multidimensional equilibrium price of  $2a/p$ , for example, indicates that the price of « power in priesthood » has risen in Africa (Living Generation) "relatively to the autarky where it was sold  $0,5a/p$  and has fallen in LDS Church (dead generation).

The same equilibrium price of multidimensional exchanges shows that the price of « Priesthood authority » has fallen in the Africa (Living generation) from  $pa/pp= 2p/a$  to  $pa/pp= 0,5p/a$ . A symmetrical adjustment will take place in the LDS Church (Silent World), where the shift from  $pa/pp= 0,33p/a$  to  $pa/pp= 0,5p/a$  indicates an increase in the price of « Priesthood authority » and a decrease in power in priesthood. In Africa (living generation), the proportion of « Priesthood authority » in « Love » production will increase and the share of power in priesthood in « Love » production will decrease. In Africa (living generation), the variation in factor prices will change the technique of production. The technique will be intensive in « Priesthood authority » and less power in priesthood. In the LDS Church (Silent World), it is the reverse of the Africa (Living Generation). The techniques will be intensive in power in priesthood, the price of which drops. Substitution of « Priesthood authority » for « power in priesthood » in « Love » production is driving down « Love » prices in LDS Church (Silent World). A symmetric analysis indicates that the price of « Gospel » will decrease and the price of « Love » will increase in Africa (living generation) (the shift of  $P_l/pg = 2g/l$  to  $4g/l$ ) and the reverse situation in LDS Church (dead world) where the price of « Gospel » will increase and the price of « Love » will decrease (the shift of  $pg/pl = 0,33l/g$  to  $pg/pl= 4l/g$ ). In other words, in LDS Church (Silent World),  $P \gg$  Gospel  $\gg$  /  $P \gg$  Love  $\gg$  increases and in Africa (Living Generation),  $P \gg$  Gospel  $\gg$  /  $P \gg$  Love  $\gg$  decreases.

At general intergenerational equilibrium, I obtain an equalization of all prices (productive factors and final goods) because the price variations are reverse and perfectly symmetrical between the two generations. It is therefore multidimensional trade that lowers the prices of rare goods (factors) in a country( generation) in order to make available the factors ( goods) which are particularly used (consumed) there. This evolution of the prices of goods and factors

generates exchange gains for both countries (generations), both for producers (consumers) . That is why LDS Church cannot be perfect without Africa (deads) and Africa (deads) cannot be perfect without LDS Church. See illustration in graph 3.

**Graph 3:** Multidimensional trade box: initial and final endowments and multidimensional trade equilibrium determination



These gains, which are proportional to international (generational) comparative advantages, increase neither for final products trade nor for indirect trade in productive factors, unlike the HeckscherOhlin-Samuelson or HOS model. This could be explained by the fact that factor price equalization occurs before that of final products traded indirectly through factor exchange.

### Conclusions and Policy Issues

An in-depth study of the economic model of Ancient Egypt reveals a serious rout from the modern era onwards, with balkanization and a vast apostasy of science into domains of approximate knowledge in a world that had hitherto been characterized by adoration and strict obedience to the laws, principles, ordinances and covenants that formed the foundation of all human action. The strict application of the forty-two commandments of Ancient Egypt, referred to here as optimal policies, were deemed capable of re-establishing, through therapeutic osmosis, the original identity of Africans and the economic model of Ancient Egypt. These optimal policies or commandments that can ensure the equilibrium and automatic regulation of the economy and of all life in society are:

- Each economic agent must love God and his neighbour with all his heart and soul. In the economy, establish the pre-order and order in which God comes first in every situation, his neighbour second and himself third. Realize a multidimensional exchange between the living and the dead over multiple generations so that the living are not perfect without their dead nor the dead without the living This is based on the prophecy of Malachi 4: 5-6 “Behold, I will send you Elijah the prophet, Before the day of the Lord comes, That great and dreadful day. 6 He will turn the hearts of fathers to their children, and the hearts of children to their fathers, lest I come and strike the land with a curse.
- All economic agents must have conditional rationality, meaning that they only make choices if they are called upon (predestined or pre-ordained) to do so. Indeed, given the absolute advantages or monopsonic conditions of economic agents in terms of both production and consumption, their needs are definitively different, hence the absolute irrationality of economic agents outside their pre-endowed or endowed zones. This denotes perfect altruism in the behaviour of economic agents, as each economic agent aims to maximize

collective profit and community utility and/or the glory of God.

- Altruism, absolute revealed advantages and the right to buy or sell (birthright) to create totally pre-determined markets must be strictly cultivated. Indeed, the endowments in terms of economic goods took place in a pre-mortal life and are simply confirmed in this world. Markets are only purely and perfectly competitive. The only purpose of competition is to confirm pre-mortal endowments and, as a result, even economic agents have pre-determined optimal plans (to be confirmed in production and exchange based on birth or purchase rights), price-takers, which are perfectly flexible.
- All economic agents must become far-sighted, by receiving the Holy Spirit as his guide and, by persevering in justice, ends up making choices without error.
- Trade must take place at equilibrium prices.
- Economic agents must have perfect anticipations and make choices without error.
- The only true productive factor must be faith in God, as the Scriptures confirm. The just shall live by his faith, Ha 2:4. Your faith has healed you, Mt 9:22 (Mk 5:34; Lu 7:50). Let it be done to you according to your faith, Mt 9:29. If you had faith like a mustard seed, nothing would be impossible for you, Mt 17:20 (Lu 17:6). Finally, all the other factors of production (priesthood power, sacrifices, trials, land, priesthood authority, power in priesthood, pre-endowed gifts or rights...) can be converted into their "faith" equivalent, for without faith it is impossible to be pleasing to God, who gives to each according to his faith. "The Lord was with him (Joseph of Egypt) and prosperity followed him; he lived in the house of his master, the Egyptian. 3 His master saw that the Lord was with him, and that the Lord made all he did prosper in his hands. 4 Joseph found favour in the eyes of his master, who employed him in his service, and set him over his house, and entrusted to him all that he possessed. Genesis 39:2-4.
- Economic agents have unequal and different pre-terrestrial endowments. These pre-terrestrial endowments must be revealed and recognized. However, whoever serves God with all his heart, power, soul and strength receives equal satisfaction (D&C 4:2). Returns are constant as seen in the parable of the talents indicating that the frontier of productions possibilities is a straight line. However, everything points to the fact that, contrary to the assumption that needs are unlimited but goods are limited, this is not compatible with the claims that "whatever you ask of my Father in my name will be given to you", "Ask and you shall receive", "Knock and it shall be opened to you", "If you had faith like a grain of mustard seed, nothing would be impossible for you". Man limits himself by his unbelief.
- All economic agents are supposed to be perfect in all things, but they are not always. They can commit more or less serious sins, which they can then repent of. But sin affects production and consumption more or less considerably, in terms of purchasing or production rights. It is through persuasion that the community helps the sinner to return to righteousness. Disciplinary councils must be provided to help the most serious sinners repent. One can also be put to the trial, disqualified or excommunicated. In the first two cases, the economic agent loses certain purchasing or production rights, but recovers these rights during the two years following the disciplinary council. These two years are a time for repentance or intensive training. In the event of excommunication, the economic agent loses all purchasing and production rights and is no longer a member of the

community. After two years or so, if his or her behaviour is honourable in relation to the sin committed, the economic agent is said to have repented, and a second disciplinary council for reintegration into the community is organized to examine his or her dignity. These different processes of repentance with the prayer, fasting, religious rituals, Lord's Sacrament meetings, conferences, temple services, covenants, ordinances and sacrifices constitute the major policies for regulating the economy that is entirely in God's hands. Thus, imbalances due to sin are not lasting, since in the event of failure to repent properly, the economic agent is excluded from the community

to avoid cases of lasting imbalance.

- Education and the workplace must be re-unified and must be completely free of charge. The superior steward can offer either work or a complementary income to the economic agent according to his revealed gifts and according to his needs and needs for progression.
- A system of voluntary but indispensable tithes and offerings or sacrifices for certain professions must enable the economic agent to perfect his faith, but also provides the superior steward with the means to provide certain services free of charge, such as transport, education, mutual aid to economic agents in distress or difficulty, health care, security, etc. These tithes, offerings or sacrifices are not only essential to the economic agent's progress, but also to the superior steward. These tithes, offerings and sacrifices are akin to painless taxes, since the economic agent who honestly pays his generous tithes and sacrifices increases his faith in God and obtains a fullness of production and joy.
- Since education and work are not separate, free learning and work last a lifetime and constitute an optimal system for perfecting and regulating the economy.
- More generally, the 42 commandments and all the principles, laws, covenants and ordinances must ensure the permanent perfection of economic agents, who may be expected to experience a high degree of economic efficiency.
- More generally, the 42 commandments and all the principles, laws, covenants and ordinances must ensure the ongoing improvement of economic agents, who are expected to undergo a great change of heart.

It is clear that this restoration of African identity would not only benefit Africa but could save the whole world from inevitable extinction Ancient Egyptian economic model could rally move more confidently toward the status of an exact science. Using numerical evidence, through priesthood authority theory experiments, we find that the human organism's multidimensional exchange mechanism, consisting of more or less integral compensation processes for negative and positive externalities, is responsible for the volatility of human growth, the main determinant of life expectancy, analogous to the relationship between the processes of economic growth volatility and sustainable growth. Because the analogy is clearly established, the frontier of production (consumption) possibilities of neurotransmitter secretion centres appears to be the sole determinant of life expectancy (sustainability of economic growth).

In various fields, biology, physics, chemistry, environmental sciences, economics and social sciences, there are so many disequilibrium situations or diseases for which multidimensional osmosis therapy is the adequate solution. But the healing state is obtained more or less quickly depending on the material that serves as the separation. The more permeable the material, the faster

the osmotic pressures and the resulting equilibrium. In the case of social diseases, where only power in priesthood and priesthood authority are able to move the cultural frontiers, the process of repentance is the most important therapy. That is why in all of our therapy models, the priesthood authority and the power in priesthood have been considered as the sole productive factors. We observe that in the case of colonization, many cultural obstacles prevented a complete assimilation so the shock generated in Africa rather Genetically Modified Organisms (GMOs).

In the specific field of gospel economics, the in-depth study of Neoclassical and the gospel of JESUS-CHRIST has revealed a glorious therapy. Under a few assumptions, Adam Smith concludes that trade is mutually beneficial for countries which specialize according to their absolute or comparative advantages (Ricardo). Adam Smith (1723-1790) of the United Kingdom and Joseph Smith (1805-1844) an American, probably never met, and no one knows the other's work. However, we observe that the greatest scientific model that the human mind has ever conceived, has therefore for the first time been implemented in its smallest details and far beyond by the Church of JESUS CHRIST of Saints of the last days from his own writings only without any reference to the works of the founders of the Classical or Neoclassical school. Several lessons can be titled from this experience:

The classical model can be implemented in the real world contrary to what economists have always thought;  
The two schools are true and form one and the same school of unique origin. One witnesses the other. The classical model is an essentially scientific construct and constitutes scientific proof of the truthfulness of the Church of JESUS CHRIST of Latter-day Saints; Therefore, there are two possible interpreters or witnesses of the Truth: science and divine revelation;  
Any model contrary to the classical model is a scientific apostasy (irrational) leading to aberrant results, under optimum

Optimality is not only possible mathematically but also in the real world and since there is only one optimality situation, there is only one multidimensional school, only one Multidimensional Church, that is to say a school or Church whose decisions, actions are fully revealed, making it possible to achieve equilibrium (isotonic or optimal relations state) in the sense of Pareto, the mixture of the tares and the Truth in the school current unidimensional is and always has been the key to the rout of the world and is necessarily of diabolical origin, the enemy of all Justice, an equilibrium (isotonic state or the real state of all things) in the sense of Pareto is a state of the economy where the situation of any economic agent cannot be improved without deteriorating that of another economic agent.

The progress of one or the other school (Church) constitutes a wealth of the other. By this very fact, every true scientist is a saint and every saint is a scientist;

The lessons to be drawn from this study are in general limitless and constitute a turning point for the world, for science and for religions, since no one will henceforth be able to rely on the futile quarrels of science and religion in order not to submit to Truth and, the evidence will be more and more prolific and will give God the full right to judge the world harshly since no one can tell God, I didn't know. We cannot on the one hand enjoy the benefits of the true Church or science (electricity, car, plane, boat, medicine, etc.) and, on the other hand, maintain that there is no no god. A true Church or a science, which together prove the existence of

God by different means and speak with one voice is a wake-up call to the giant darkness of the earth or the end of the game of the ostrich of a world decadent.

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