

THESIS 2017

Cogitative Intervention in Modeling Thinking

**The man's mental compositional structure and its usefulness
in integrating management divergent conceptualizations**

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Table of Contents

Title	
Table of Contents.....	i
INTRODUCTION.....	ii
METHODOLOGY.....	1
PRELIMINERIES	
Prolegomena: three Cases, examples of ineffective thinking.....	4
Objective.....	17
Context: the Nature of this thesis.....	24
CHAPTERS	
Chapter One: the Structure of the human’s nature... ..	26
Chapter Two: an Effect of the human’s nature.....	35
Chapter Three: the Pervasion of the human’s nature	45
Chapter Four: the Modeling of the human’s nature	56
Chapter Five: the Conclusions on the human’s nature	60
Chapter Six: the Research of the human’s nature	68
REFERENCES	71
APPENDIX	75

INTRODUCTION

This thesis aims to propose that the way to approach organizations and resolve inquiries, issues, and even intervention problems should be tridimensional, otherwise solutions would never be integrated. The tridimensional proposal is based on the attestation that within any organization, natural or legal, exists a tripartite set of operators, naturally planted and functioning within the entity of any organization. Consequently, this thesis enunciates that if this piece of knowledge is missing, integrated -hence, effective- solutions would always be missed. It also proposes that the natural set of the mentioned operators work anyway, hence, scientists and researchers who study applications in organizations and organizational issues acquire solutions that correspond only partially to some of the functions of those operators', while the aggregation of the mentioned parts would consist the work of the mentioned operators as a whole.

In the first of the introductory sections, the Methodology, this thesis states that for such new, difficult, unprecedented discovery (the discovery claim is supported in the Objective) a wide approach and breadth of coverage of literature is needed and the method to be used is scoping review. The scoping review helps greatly this thesis' uncommon approach, nature, and purpose to be, not an answer to a specified question but, a spherical examination of others' findings and to extract an aggregate notion of how things work; then to present an updated view through new lenses.

This thesis starts by stating axioms. Although this thesis's content and context are social, and therefore it is classified in the "classical disciplines", its writing is structured as if it was a positivistic discipline's type of work. The reason is that the classical disciplines are missing definitions or attestations that answer the question "how do you know that". Although it is true that authors do try to define the content of their own work and objective, I would like to proceed further and be able to answer the question "how do we know that" for the terms outside the own work presented by an author; those terms are notions commonly recognized and usually they are used without stating their origin but taking them as granted. For example, if I had followed the same pattern, I would have used the term "human nature" as granted and as that we all know humans have nature. However, I think I would like to contribute in changing this and show a way to do that. The way I propose is to state at the very beginning, before all and any developed work, what are or where to find what are the core notions on which the study has been built. One way to do so is to state the axioms of the presented work. Doing so, the complete set of reasoning or of the root pieces of knowledge upon which the study has been built are demonstrated and the readers of such work are reminded of those. An example of the result when not doing so is that we have forgotten that the entire world and all science has been built in this one basal axiom, the most essential of all, "there is point", which has been formed by Euclid. Why is this essential? because there is no actual point in this material world, hence, "point" is just a notion and the question "how do you know there is point" or "how do you know what point is" cannot be answered unless we set the mentioned axiom.

This thesis also purposely is missing the mainstream structure in presenting its content, hence, its approach is uncommon. Usually studies set out by stating what is missing in a field of the science and what they aspire to contribute at. Doing so they aim to be “friendly” and accommodate the reader’s lack of time by providing a quick view of the content and its conclusions instead of expecting the reader to do so. I think that by stating the intentions and remits of “my work”, I prejudice the reader; in spite, as an author I should leave the reader alone to study diligently the content and, in an effort to understand the aisles of the author’s way of thinking and “where all this takes us”, let the reader produce the own conclusions and outcomes. By “making it easier and friendly” to the reader, I would contribute to a modern era’s speed up mentality and help to quickly surf the study and finish “one more obligation”, that of reading one more work, while essential parts of its context would be missed, and I do not want to do that. However, in respecting the existing practice and to accommodate in the less degree possible what I do not want to do, herewith I submit a concise Introduction of what this thesis is all about and a smaller one in each of its chapters.

Part of this thesis’ uncommon way and approach is the fact that there are no Research Questions to be found. This thesis is not a continuance of an ongoing research nor another step of an opened investigation. It is not an answer to a specified question but a spherical examination of others’ findings to extract an aggregate notion of how things work and then a presentation of an updated view through new lenses. This is consistent with the mentioned above methodology and finds its support in this. Hence, the dependency of this work on its methodology is of a great degree. For the mentioned dependency it is imperative that the reader becomes familiar with the methodology before fathoming in the text and its findings. For this reason the methodology is presented first. And this is one more uncommon approach of this thesis which stretches even more its uncommonness.

At the Prolegomena, this thesis argues that behind all developments of thought and activities of the human being, there is a natural pulse that originates in a tripartite set of operators that direct and determine all of the mentioned developments. I start with stating who among the scientists has attested that such operators exist. Then, I present whether and how those operators affect something important and indisputable; that is our social life. In this section I take the chance and liberty to prove how from the individual territory we proceed to the social territory, and also how this social territory is only the third stage of a development that starts from the socialization stage, then goes through the societal stage, and ends up finally to the social stage.

Then, I present three examples to challenge the way we think, and specifically think of views that have legitimacy, when we do not know the existence of the mentioned operators and how they affect our activities and thoughts. When this happens, I claim that ineffectiveness occurs. In the dictionaries the term “ineffectiveness” is stated with both the meaning of “inadequacy” and the meaning of “incompetence”.

I have not witnessed “incompetence” among the works of the scientific field, but I have witnessed such a broad range of interpretations and such enormous diversified points of views on the same subject per case that is very difficult for a learner to come down to a clear understanding or deduction. This prohibits the broad public audience from learning or accessing scientific findings while such diversification is claimed from scientists as the success of science. I think it is time for one to contribute in changing this point of view and provide those tools that would help to “separate the wheat from the chaff” in the scientific findings. Hence, I use the term “ineffectiveness” only with the meaning of “inadequacy” -not with the meaning of “incompetence”- and to point out that “inadequacy” results in endless discussions and boosts the rise of several schools of thoughts that in many cases battle each other. I think that such contribution would be the actual “success of science” instead. The mentioned tools that I claim to provide for this are the set of the operators presented herewith and this is the contribution of this thesis to science.

So in the Prolegomena, this thesis states:

1.

What is the nature of an individual, in regards to societal daily pursuit; it is known as “inquiry”.

2.

How from individual inquiry we end up to socialization, product of which is the society and all what we know about it today.

Next, in the Objective I provide the evidence that proves that we think explicitly on the objective and where the matters occur, not implicitly about the mechanism of perceptions by which we approach the matters, by firstly bringing forward the dilemma of whether “causalities are interpreted by erroneous perceptions” or “perceptions interpreted erroneous causalities”. To sum this dilemma, I have constructed this claim, “we do not understand how we understand”. Then I present cases showing how things could possibly develop if the mechanism of perceptions had been considered. This is followed by some scientists claims who raise voice of ineffectiveness and the need to investigate what is going on in the people’ heads.

The Context follows where I underline the nature of such approach. It is stated here that this study’s nature is “organizing concepts”, “reforming mental models”, and dealing with the personal limitations that affect organizational problems.

In Chapter one, it is presented what is behind human actions, the structure of it, and how that has led us to societal togetherness. What is the reason that has led us to what we know as “social” life today is enunciated in this section. Here, “the wide approach and breadth of coverage of literature” that is mentioned in the Methodology is presented. Those are the broader possible number of resources that refer to the mentioned causes using diversified names in presenting them, which are also listed. Out of all those names, assigned to the mentioned causes, the name “operators” is the one chosen for the purpose of this thesis.

In Chapter two is broached how the ignorance about those operators -as part of the human nature- affects the scientists, as human beings that carry human nature. A couple of clear references, those of Adler's and Aristotle's, are presented to elaborate on the effective functions of those operators.

In Chapter three comes the proof of this common sense claim: if all this -about the three operators- is true, and if those operators are really part of the human nature, we should have some evidence in people's work that those operators exist and function, although people ignore their existence. So, here presented are several examples of scientists in management that have "fallen" in the drive of those three operators without knowing them, and, hence, so it is proven the impact those three operators have already in management literature, in research, and the pursuit of knowledge, no matter what, and how everyone -and scientists- subordinate to this fact, the three operators existence and their lead. This is the pervasion of the three operators in our activities.

In Chapter four an indicative modeling and simulation is presented showing, in its infant mode, an approach to the dynamics of the operators' function.

In Chapter five the conclusions are summed.

In Chapter six the ambitions of a future research are broached. In this are included the openings that other research offers and it is discussed how such research efforts could be considered the precursor of the message of this thesis with the great example of intuition.

Finally discussions about limitations, ethical and reflexive issues, and even about what was important or how did I deal with this issue or the other challenge are intentionally omitted, meant to be provided in a future work with a greater use of space. It is the opinion of the author to let the reader focus and comprehend this new proposed approach of things, the tripartite approach, and take in the own consideration the idea that a spherical approach is needed -the proposed tridimensional- before we would be able to obtain integrate solutions.

This thesis aims to propose that the way to approach organizations and resolve inquiries, issues, and even intervention problems should be based on the tripartite set of operators naturally existed in any organization, natural or legal, and that such approach would make life easier and open new avenues in providing ways to integrate methods like intuition.

METHODOLOGY

In this section it is argued the need for a wide approach and breadth of coverage of literature, and for this purpose the method to be used is scoping review.

The following work draws “conclusions from existing literature” and, specifically, its methodology identifies “gaps in the evidence base where no research has been conducted” whilst “quality assessment does not form part” of this work (Arksey & O’Malley, 2005: 21). The key element of this methodology is finding gaps in the existing literature. “Identifying gaps in the existing evidence base is clearly important, and [. . .] may not lead ultimately to a full systematic review” (Arksey & O’Malley, 2005: 21). Firstly, “the systematic review process can be very lengthy, a key disadvantage when” readers and researchers “want information about existing research evidence sooner rather than later”; secondly, this thesis “potentially has to deal with a greater range of study designs and methodologies than the systematic review” (Arksey & O’Malley, 2005: 30).

For the two mentioned reasons, systematic review is not the methodology in this thesis. “The whole point” in this thesis “is to be as comprehensive as possible in identifying primary studies and reviews suitable for answering the central research” questions (Arksey & O’Malley, 2005: 23), as I have summed them in (o: 17) below. To have this thesis as comprehensive as possible entails four needs: (1) The need to “maintain a wide approach in order to generate breadth of coverage” (Arksey & O’Malley, 2005: 23) and at the same time to use “this type of rapid review” not to “describe research findings in any detail” but to map “fields of study where it is difficult to visualize the range of material that might be available” (Arksey & O’Malley, 2005: 21). (2) The need to document the process “in sufficient detail to enable the study to be replicated by others. This explicit approach increases the reliability of the findings, and responds to any suggestion that the study lacks methodological rigor” (Arksey & O’Malley, 2005: 22). (3) The need to know that “it is more likely to include and disseminate findings from a range of different methods and study designs” (Arksey & O’Malley, 2005: 30); I needed to obtain breadth of evidence not depth yet. (4) The inference that “it is likely that as familiarity with the literature is increased, researchers will want to redefine search terms and undertake more sensitive searches of the literature. To this end, the researcher may not wish to place strict limitations on search terms, identification of relevant studies, or study selection at the outset. The process is not linear but iterative, requiring researchers to engage with each stage in a reflexive way” (Arksey & O’Malley, 2005: 22).

This thesis aims “to map rapidly the key concepts underpinning [. . .] the main sources and types of evidence available”. To avoid complications and boredom, such key concepts should “be undertaken as standalone projects in their own right, especially where an area is complex or has not been reviewed comprehensively before” providing, “at the same time, a mechanism for summarizing and disseminating research findings” to whom it may concern “who might otherwise lack time or resources to undertake such work” (Arksey & O’Malley, 2005: 21).

In this thesis the main source of information is the electronic database and in this methodology “the search strategy for electronic databases is developed from the research question and definitions of key concepts” (Arksey & O’Malley, 2005: 24) that are presented in the narrative and the tables knowing that “to present an overview of all material reviewed and consequently issues of how best to present this potentially large body of material are critical” (Arksey & O’Malley, 2005: 27). In my thesis it might look like I “seek to ‘synthesize’ evidence or to aggregate findings from different studies”. Whilst the study in this thesis “will need some analytic framework, or thematic construction in order to present a narrative account of existing literature, there is no attempt made to present a view regarding the ‘weight’ of evidence in relation to particular interventions” (Arksey & O’Malley, 2005: 27), notions or theories. This is because my intention is not “to assess quality of evidence and consequently cannot determine whether particular studies provide robust or generalizable findings” (Arksey & O’Malley, 2005: 27). “To this extent it is crucial that” (1) this thesis “retains a clarity of reporting strategy so that the reader can determine any potential bias in reporting or recommendations” (Arksey & O’Malley, 2005: 28). “By applying a consistent approach to reporting the findings” I would be able “to make comparisons across” different disciplines and “identify contradictory evidence regarding” specific notions related to the remit of this thesis (Arksey & O’Malley, 2005: 28).

To this extent it is crucial also that (2) I demonstrate “high degrees of analytic skill in order to develop frameworks through which large numbers of studies can be described” (Arksey & O’Malley, 2005: 30).

What Arksey and O’Malley above refer to? What is the name of the one methodology to which all above quotes and citations that I have adopted ascribe? Scoping review methodology.

“Scoping tends to be synonymous with providing an overview of the breadth rather than depth of evidence” (Davis, Drey, & Gould, 2009: 1387). I needed to obtain breadth of evidence not depth yet. If I had to properly find an evidence or formally present a notion in a systematic review method, I should be an expert in everything. Instead I could understand the mainstream definitions and concepts and relate them to my topic and research. In this thesis, I wouldn’t want to go far into the divisive detail but instead I would want to exercise understanding and reserve in building “understand understanding” for the (or my) future research.

There are details everywhere, in any method, where does the synthesis in understanding lie? The way to reach breadth is primarily indicated by the System Dynamics method. SyDy method is the pilgrim of this direction. When one applies SyDy, for example to detect the developments in expanding some business in a new area, one would need to consider economical, environmental, residential, shuttle, taxing, legal, and many more factors or parameters. Is the researcher expert in all that?

What one should do? Scoping review by research, studying, and finding evidence.

“There is no definitive procedure for scoping the literature, and” I am “not suggesting that the framework presented above is the only ‘right’ methodological approach to take” (Arksey & O’Malley, 2005: 29). All I am suggesting is “it would be wrong to assume that this method represents either a ‘quick’ or ‘cheap’ option” (Arksey & O’Malley, 2005: 30) based in the fact that “in a relatively short space of time (compared with full systematic review), reviewers are in a position to illustrate the field of interest in terms of the volume, nature and characteristics of the primary research” (Arksey & O’Malley, 2005: 30). This is an advantage and it should be considered that “a key strength of the scoping study is that it can provide a rigorous and transparent method for mapping areas of research” (Arksey & O’Malley, 2005: 30). “It would be wrong to view the scoping study method as an easy option simply because hard questions about quality appraisal and synthesis are avoided” (Arksey & O’Malley, 2005: 30) and because there is no definitive procedure for scoping the literature.

Having pointed at the methodology in this thesis, I would proceed with presenting the steps I will take, and some have already been attested, in fulfilling the scope of this thesis. Those won’t be different than the ones the mainstream scoping review methodology suggests and reported in Arksey and O’Malley (2005: 22).

- Step 1: identifying the research question
- Step 2: identifying relevant studies
- Step 3: study selection
- Step 4: charting the data
- Step 5: collating, summarizing and reporting the results

Following the same innovative way, which the scoping review suggests, I won’t do what the traditional scope would do; I won’t state an overview set of steps or a foreword of the chapters that are to follow.

PRELIMINARIES

Prolegomena: three Cases, examples of ineffective thinking

This section starts by stating the axioms upon this thesis is built. It continues by arguing that behind all developments of thought and activities of the human being, there is a natural pulse that originates in a tripartite set of operators, and who among the scientists has attested that such operators exist. Then, it continues by presenting whether and how those operators affect our social life. Three examples follow to challenge the way we think of views that have legitimacy, when we do not know the existence of the mentioned operators. The premise of this section can be summed to (1) “inquiry” is in the nature of an individual, and (2) how from individual inquiry we end up to socialization and to the formation of the society as we know it today.

Axiom one: “Humans have a ‘nature’ ”; (Wiebe, 2004: 66).

Axiom two: “Natural human activity: Inquiry to predict future circumstances”; (Babbie, 2008: 6).

Axiom three: “Prediction is placed in a context of knowledge”; (Babbie, 2008: 7).

Axiom four: “The basis of knowledge is agreement reality”; (Babbie, 2008: 5,6,7).

Axiom five: “Agreement Reality: a product of the agreements you have with those around you”; (Babbie, 2008: 5).

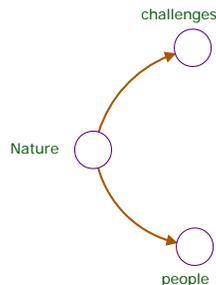
Axiom six: “There is social system, from those around you, structured on agreement reality”; (Babbie, 2008: 5).

FIGURE 1
Nature, mother na



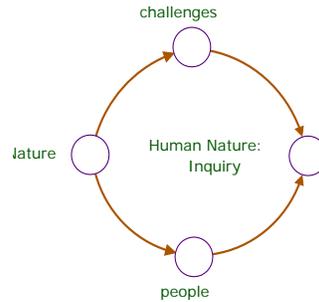
In the nature, illustrated in Figure 1, challenges occur, illustrated in Figure 2.

FIGURE 2
Occurrence of Challenge



People deal with challenges in two types of behavior, those of “prosociality (tendencies to form social bonds and engage in social reciprocity) and self-directed (tendencies to work on one’s own long-term behalf without external sanctions) (Wiebe, 2004: 65) (*Author’s Note (AN): a*), moved from “something you and I have engaged in every day of our lives” (Babbie, 2008: 6); that is the “inquiry as a natural human activity” (Babbie, 2008: 6), illustrated in Figure 3.

FIGURE 3
Human Nature: Inquiry



Inquiry is a very general idea yet so practically bound with the natural human activity engaged in the everyday life. Babbie, addressing specifically the researchers, show “how the interrelated steps of conceptualization, operationalization, and measurement allow researchers to turn a general idea for a research topic into useful and valid measurements in the real world” (Babbie, 2008: 130); and further, “how researchers move from a general idea about what to study to effective and well-defined measurements in the real world” (Babbie, 2008: 131).

This laconic claim, that those three “interrelated steps” “allow the researchers” to “move from a general idea” “to effective”-ness, consists: (1) a precise description that raises no doubt that the researchers should be using those steps regardless of their scientific background, and (2) an abstract guide which can apply to any formation of inquiry. Thus, I will adopt the same steps for any human seeking how to move from a general idea to effective performance, that is “the human inquiry in the context of knowledge” of axioms two and three above. Only, I will rename the “conceptualization, operationalization, and measurement” names to “problematization, analyzation, and systematization” for three reasons: (1) because I focus on the process in the individual, what further down is named “inquiry”, not just on research steps and for this reason I want to use non-mainstream-scientific terms but conventionally comprehensive terms, (2) because, aggregately, the mentioned “process in the individual” develops so that the individual first conceptualizes a challenge by approaching it with problematization, then analyzes the formed concept by approaching it with analyzation, and last contrives means to take action with the elements found at the analysis stage by approaching some kind of systematization, and comes back to anyone of them depending on the approach outcome, the challenge and its phase, and (3) for my aspiration to start off with three terms in Greek. Thus, when dealing with the challenges, people proceed by inquiring in one of the following three forms: problematization, analyzation, and systematization; “how” is demonstrated below. We are used to think that people contrive methods and means aiming to deal with the challenges explicitly, where they occur, at the “objective area of the issue”; we are not used to think that people function naturally with some mechanism implicit in their being anyway. However, this is true and it consists the first criterion which one uses to sense if another one is capable to contribute in the challenging cases. Wiebe elaborates more on that and explains the mentioned implicit mechanism.

Wiebe in the following series of thought starts by stating that “humans seek the immediate gratification of selfish desires and commit crimes in pursuit of this gratification. This pursuit often occurs at the expense of the legitimate rights of others, undermining group interests. To enhance its interests and reduce offending, the group must either teach self-control -the restraint of natural impulses out of concern for their long-term consequences- or limit opportunities to satisfy these impulses” (Wiebe, 2004: 66).

Hence, self-directed gratification causes the intervention of the social-control, either by restraining impulses or limiting opportunities. However, amazingly and not underlined enough thus far, both ways of the social-intervention (the mentioned, restraining impulses or limiting opportunities) aim to the “natural impulses”, by restraining or satisfying them (*AN: b*).

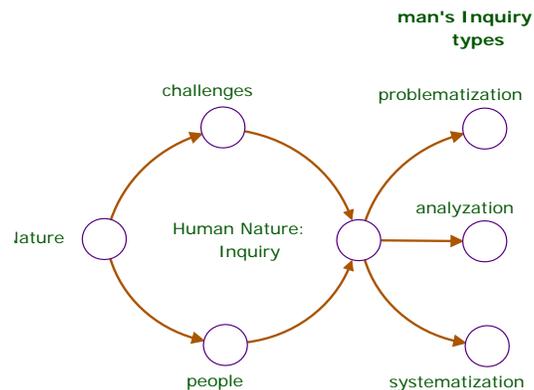
This is unnoticed in the studies. Who and how has elaborated on that? What studies have accommodated this practice? Wiebe ratiocinates in regards only to “why” and claims “this happens because of predispositions” -but other than that, nothing more.

Wiebe cogitates “so, by most lights, humans have a ‘nature’. But is this nature innately selfish or social? This is a ‘false dichotomy’. Modern behavioral science has replaced both radical environmentalism and one-sided theories with a model that describes a host of innate predispositions, including but not limited to both selfish and social traits and tendencies” and “although predispositions for prosocial and self-directed traits and tendencies may fully develop only in prosocial environments, while many selfish traits appear perinatally, this does not make prosociality or self-direction any less ‘natural’ ” (Wiebe, 2004: 66). Well, then let’s keep in mind that (1) people have nature, (2) nature hosts innate predispositions leading to those two outcomes, (3) the predispositions find full development only in prosocial environments, and (4) those outcomes are natural. This set of findings proves my mentioned claim that “people function naturally with some mechanism implicit in their being anyway” (*AN: c*). Then Wiebe continues to ratiocinate the appearance of assumption laid by agnosticism: “in time, social control gave rise to self-control, and agnosticism gave way to assumption” and that “self-control means nothing less than the abnegation of individual pleasures in favor of group interests” (Wiebe, 2004: 68).

Hence, social-control gives rise to self-control resulting in prosocial behavior and to the transition from self-directed behavior to self-controlled behavior (*AN: d*).

What is the figurative of all above? Calculation for gratification (problematization), analysis for intervention (analyzation), then the rise of self-control and prosocial behaviors (systematization) and, on aggregate, this is always the case. So, when considering the challenges, at any moment, people proceed by taking position in one of the following three inquiries: problematization, analyzation, and systematization for the mentioned earlier reason, that is to move from a general idea to effective performance, or even measurement (*AN: e*).

FIGURE 4
Three Inquiries



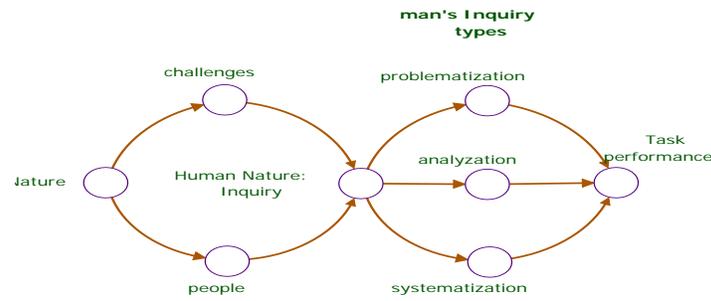
The mentioned types of inquiry types by which people approach and pursue challenges -problematization, analyzation, and systematization (illustrated in Figure 4)- are consistent with methodologies that have been initiated in social applications. For example, the P'HAPI (Moxnes, 2009: 1,3,7), when particularly pointing the need of the main three steps “problem, analysis, policy” (Moxnes, 2015: 16) application - out of the entire five- for any study’s outline, is a method of inquiry with which the “problem, analysis, system” set I propose is consistent.

The Group Modeling Building intervention method’s three “types of group task structure” (Luna, Martinez, Pardo, Cresswell, Andersen, & Richardson, 2006: 291), pellucidly presented by Andersen and Richardson (1997: 111-112) as “divergence, convergence, ranking and evaluation” and even fancier by Rouwette and De Gooyert (2016: 2) as “divergence, convergence, prioritization”, compose another method of inquiry with which the “problem, analysis, system” set I propose is consistent. More suchlike methods will be broached further down in this thesis; all of them aim to address the challenges explicitly (where they appear) at the area of the issue as an objective, whereas the proposed in this thesis method aims to address the challenges implicitly (where they are caused) at the man’s domain of impulses and predispositions that lead to inquiries.

What do those three inquiries mean? Problematization is a “strategy for developing a critical consciousness” (Montero & Sonn, 2009: 80) and consists of the efforts of the people to conceptualize a challenge by “developing their understanding” (Montero & Sonn, 2009: 142). Analyzation -after having conceptualization formed- consists of the efforts “to examine methodically by separating into parts and studying their interrelations” (The free dictionary, 2017). Systematization -after having analyzation performed- consists of the efforts “to put into a system”, to “arrange according to a plan or scheme,” (The free dictionary, 2017).

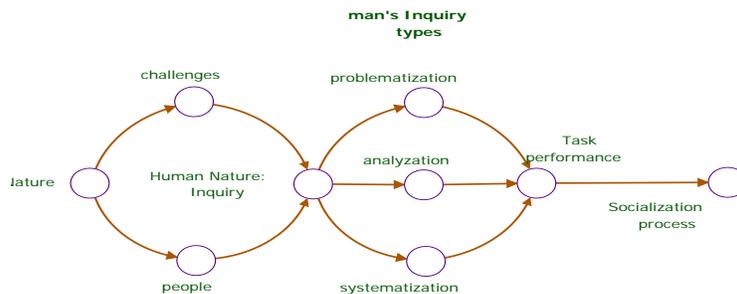
People’s problematizations, analyzations, and systematizations inquiries are exercised by taking place through praxes; a set of praxes form a task and task performance, illustrated in Figure 5 (AN: f).

FIGURE 5
Task Performance



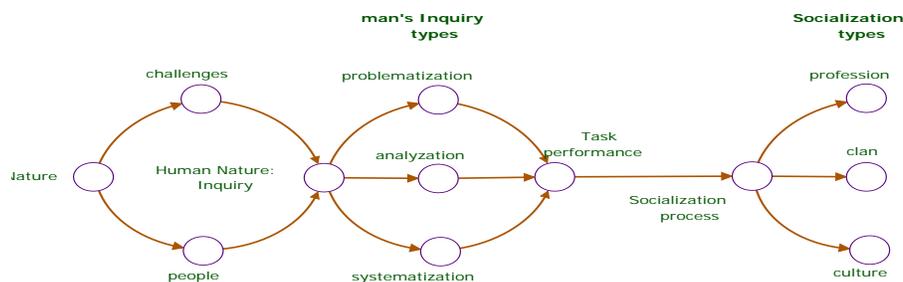
Until this stage, including the task performance, all stages are about an individual and individual's territory. At this stage, though, is where the social territory starts, and the bound from the individual to socialization happens. This happens because tasks face challenges and task performance becomes ambiguous. Ouchi (1979: 837) confirms this when stating that "Task performance is inherently ambiguous, and teamwork is common [. . .]. In such cases, we observe a highly formalized and lengthy period of socialization" (*AN: g*). Task performance induces socialization and socialization processes, illustrated in Figure 6.

FIGURE 6
Socialization Process



Ouchi distinguishes three socialization processes and defines them as profession, clan, and culture, illustrated in Figure 7. "When these socialization processes characterize groups [. . .] who occupy different organizations but with similar values, we refer to them as professions" (Ouchi, 1979: 837). "When it [*AN: socialization process*] refers to the properties of a unique organization, we may refer to it as a clan" (Ouchi, 1979: 837). "When the socialization process refers to all of the citizens of a political unit, we refer to it as a culture" (Ouchi, 1979: 837) (*AN: h*).

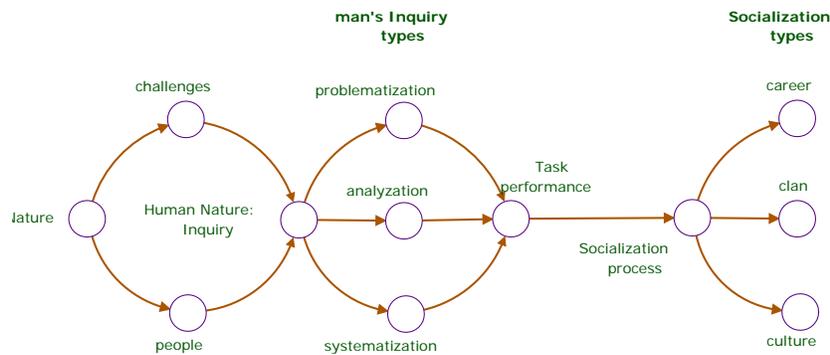
FIGURE 7
Three Socializations



The term “clan” is strong, sharp, and strange. However, it provides accurately the nature of the things happening in an organization and how an organization’s formation takes place. Ouchi enunciates this astutely; “a Clan requires not only a norm of reciprocity and the idea of legitimate authority (often of the ‘traditional’ rather than the ‘rational/legal’ form), but also social agreement on a broad range of values and beliefs. Because the clan lacks the explicit price mechanism of the market and the explicit rules of the bureaucracy, it relies for its control upon a deep level of common agreement between members on what constitutes proper behavior, and it requires a high level of commitment on the part of each individual to those socially prescribed behaviors. Clearly, a clan is more demanding than either a market or a bureaucracy in terms of the social agreements which are prerequisite to its successful operation” (Ouchi, 1979: 838).

Since “by the late 20th century, a wide range of choices (especially in the range of potential professions) and more widespread education had allowed it to become possible to plan (or design) a career” and career is “an individual’s journey through learning, work and other aspects of life” (Wikipedia, 2017) -which is the case today- at this point I would illustrate the term “career” to supplant the term “profession” just in Figure 8.

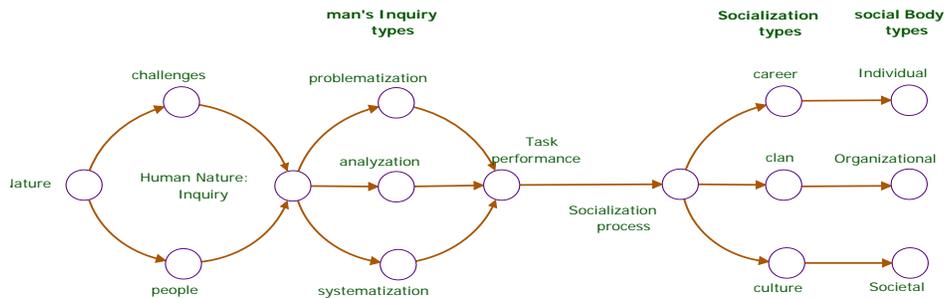
FIGURE 8
Career Supplants Profession



As processes recur, the three socialization processes shape formations, form structures, and structure bodies that affect levels, and they associate with those levels. The residual levels are three: “the individual, organizational, and societal” (Mitchell, Agle, & Wood, 1997: 867) (AN: i).

The levels are associated with the social bodies that affect them through recurrence of the respective social processes. Individuals recur profession and so profession associates with the individual social body. Clans recur organization and so clan associates with the organizational social body. Cultures recur society and so culture associates with the societal body, all of which are illustrated in Figure 9 (AN: j). Thus, from (h: 8), (i: 9), and (j: 9) ensues that culture is inevitably associated with the society in its entirety like the profession is associated with the individual; likewise the clan is inevitably associated with the organization, and this is, in my view, impressive.

FIGURE 9
Three Social Bodies



One can't avert profession configurations in individuals, one can't avert clan configurations in organizations, and one can't avert culture configurations in society. The preceding (e: 6), (f: 7), (g: 8) and (h: 8) conclude that (1) people's inquiries -that is problematizations, analyzations, systematizations- diversify depending on the ongoing task performance, and (2) as those diversify, their outcomes differ or match to some degree resulting in grouping in different forms; those are forms related to professions, forms related to clans, and forms related to cultures. Hence, Hofstede's (1984: 82) own definition of culture " 'Culture' has been defined in many ways. My own preferred definition is that culture is the collective programming of the mind which distinguishes the members of one group or society from those of another" could also make sense if it, as is, was used to define "profession" and "clan". In effect, it makes sense to state that profession is "the collective programming of the mind which distinguishes the members of one group from those of another" and likewise it also makes sense to state that clan is "the collective programming of the mind which distinguishes the members of one group from those of another". Thus, the definition given for culture by Hofstede is not a definition for just culture; it can be applied for profession as well as for clan. Regardless of who is this definition's maker, the question is why and how could we all fall in such inadequacy and the resulting ineffectiveness? How could a researcher relate this definition to a newer, this of Flamholtz (1983: 158), that is "Culture consists in patterned ways of thinking, feeling and reacting" and which criterion could one use to identify the best definition, in terms of accuracy, effectiveness and efficiency, among the above two? (AN: k).

On another, of same nature but different direction, challenge, what would be the chance to throw a "6" with one die? it is $1/6$. If, when a "6" is thrown, one gains 60€, what is the monetary value of this game? $1/6 * 60€ = 10€$. What is this useful for? To decide whether to participate or not in such a game. For example, if one is asked to pay 30€ to participate in this game, one should refuse since the expected return (10€) is smaller than the pay to participate (30€); and if one is asked to pay 5€ to participate in this game, one could consent since the expected return (10€) is larger than the pay to participate (5€). Let's now offer the following gamble, the famous St. Petersburg paradox described by Bernoulli. "A fair coin is to be tossed until a head appears for the first time. If the head appears on the first throw you will be paid \$2, if it appears on the second throw \$4, if it appears on the third throw \$8, and so on. How much would you be prepared to pay to have the chance of engaging in this gamble? The expected returns on the gamble are:

$$\$2 \times (0.5) + \$4 \times (0.25) + \$8 \times (0.125) + \dots, \text{ etc.}$$

which equals $1 + 1 + 1 + \dots$ to infinity. So your expected returns will be infinitely large and you should be prepared to pay a limitless sum of money to take part in the gamble” (Goodwin & Wright, 2004: 113-114). Thus, in this case the use of logic is not a logical use; it leads to nonsense. Regardless of the necessity to participate or not in such game -it could be an unnecessary gamble or it could be a survival bet- the question is why and how could we all fall in such ineffectiveness? In this case, logic can’t stand strongly. While in such calculations people use logic, what is that which in such occasions people trust better than logic and decide, by using logic, to put logic aside in choosing outcomes other than those logic directs us to choose? Is this a perception that overlooks logic? is this “a product of the agreements we have with those around us” (Babbie, 2008: 5)? (*AN: I*).

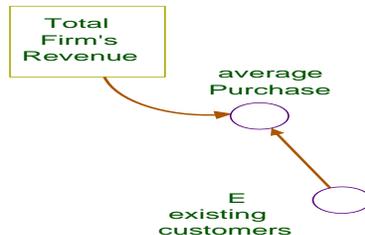
In a third case, BITSING “is a revolutionary business management method from Holland, which will be deployed by 1000 and organizations (from multinationals to freelancer) in achieving goals” as stated in “the world of Bitsing” page of its website (Bitsing, 2017). As also stated in the same website, “Bitsing [*AN: company*] is part of the European Master Program”. As part of this European Master Program several groups of the business administration students, of the master degree, were assigned to meet real businesses with the purpose to face real companies’ management problems and their stakeholders’ claims in an effort to practice on those issues the taught “Group Modeling Building” (GMB) consulting method. In November 2016, one very small group was assigned to GMB-consult this successful management company, BITSING. The specific request for the BITSING meetings was to model, using the SyDy theory and modeling software, the dynamics of the BITSING method applications.

The purpose was to explore potential and/or underlying issues that would prevent from or improve versus possible failures. At the very first meeting, as supposed, the president of the BITSING company was asked to elaborate accurately the BITSING method’s application and so to help the modelers -participants in the group- to convey, replicate, and transform the practices, the actions, and the suggestions of the BITSING method into variables, parameters, and stocks and flows diagrams of a SyDy model.

The BITSING company’s name is redirected from the method’s name BITSER. BITSER stands for the six steps of this method: **B**-rand (meaning “how many people know the name of the BITSING-client firm”); **I**-nterested (meaning “from people knowing the name, how many of those are interested and actually are looking at that firm’s name); **T**-raffic (from the people looking at the firm, how many of those actually visit the firm); **S**-ales (from the people visiting the firm, how many of those actually buy); **E**-xisting or **E**-xtras (from the customers buying from the firm, how many of those actually return and buy again); and **R**-eferrals (from the customers re-buying, how many of those refer a new one). Right off this very first meeting, on Friday 18/11/2016, I specifically asked the president, “What is your first action after collecting your client’s information; for example, you walk in a client’s office for consulting; you ask for data; data are provided to you. What is the exact next step do you take?”

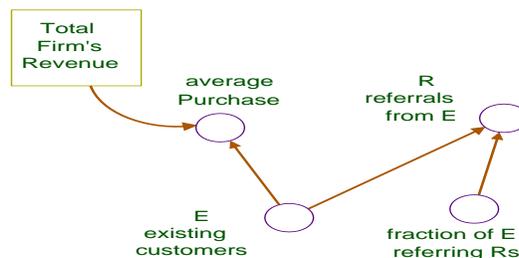
What is usually your starting point, what do you pay attention to first? Do you pay attention to a specific step out of the “6” BITSER steps? Do you form a difference (a gap)? Do you elicit a ratio (analogy)? What is this you pay attention to right away?” Adequately enough, right off this very first meeting, the president was crystal clear, “I start from E, because my focus is not people, is money; who is bringing in the money? the E, the loyal, the enthusiastic existing customers coming back to buy extras; they also contribute more by referring referrals. So, out of all six steps, that’s the key step; I always ask, ‘how many are your E customers and how many R referrals do they bring in?’ Then, since I have defined E and R, I apply the known and published percentages for each step all the way down on the rest of the BITSER model. This way I fix the problems in each step”. Therefore, the president had spoken that he primarily acquires data on (1) what is the amount that the returning customers spend with the firm and (2) how many new customers averagely they refer. All this supposed to be simple calculations “before any mathematics and before any modeling” so to speak. However, agreeing with Richardson’s (2013: 42) argument in using “a quick way to introduce the iconography of the approach and some of its framing assumptions”, at this point I would draw a fancy conceptual model. The president said “my method counts that the revenue is mainly made by the E, the loyal, the enthusiastic existing customers coming back all the time to buy extras”. This is illustrated in Figure 10.

FIGURE 10
the Revenue is Mainly Made I



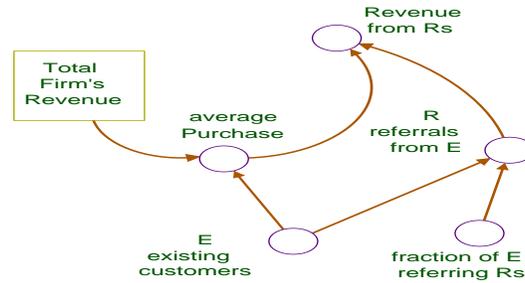
The president also said “my method counts on existing customers’ referrals; how many referrals I get from the loyal and enthusiastic customers”. This means that there is a fraction of the “E”s that refers “R”s, illustrated in Figure 11.

FIGURE 11
Fraction of the Es that Refers I



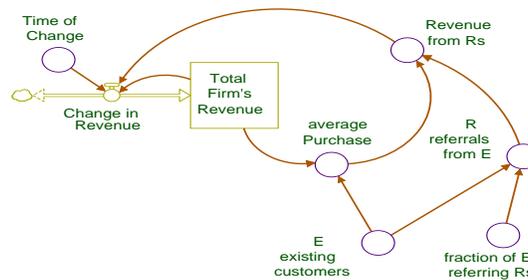
The modeler of course should think, “the president said, ‘my focus is not people, is money’ ” and model, not the “R”s people, but the amount from “R”s, the revenue that the firm gets from the referrals. Meaning, not every E refers “R”s and not every R buys; meaning, the modeler should be careful which fraction data of “E”s, which benefits the firm with “R”s, would be given by the firm; hence, the only information required at this point are (1) the number of the correct fraction and (2) to add the revenue from the “R”s, illustrated in Figure 12.

FIGURE 12
the Revenue from the Rs



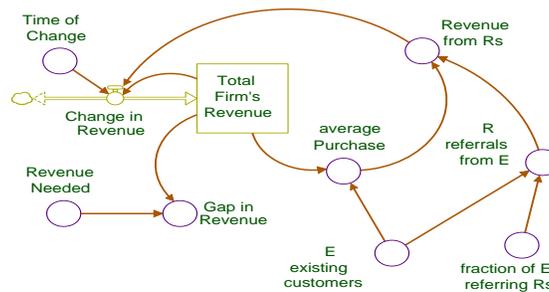
The new revenue supposed would be added to the existing revenue and both accumulated, over time, would make up the total firm's revenue, illustrated in Figure 13.

FIGURE 13
the Total Firm's Revenue

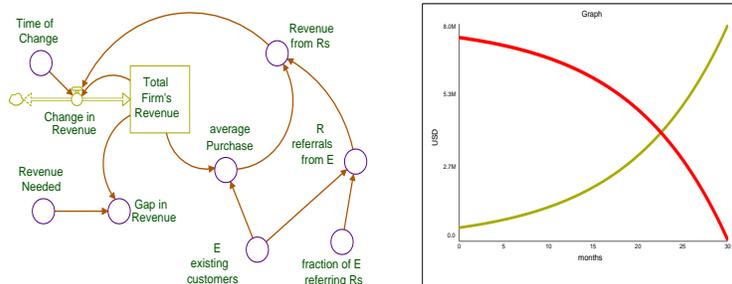


Where is the aporia? The president said that with the BITSER method tries to resolve a company's problem and is doing this by focusing on money, not on people. So, the aporia is whether this "Total Firm's Revenue" is enough to save the firm. What does it mean? How much is needed? Hence, the modeler at this point adds the "Needed Revenue" parameter and its difference from the "Total Firm's Revenue" to calculate their Gap, illustrated in Figure 14.

FIGURE 14
"Needed Revenue" Parameter and its Difference from the "Total Firm's Revenue" to Calculate thei



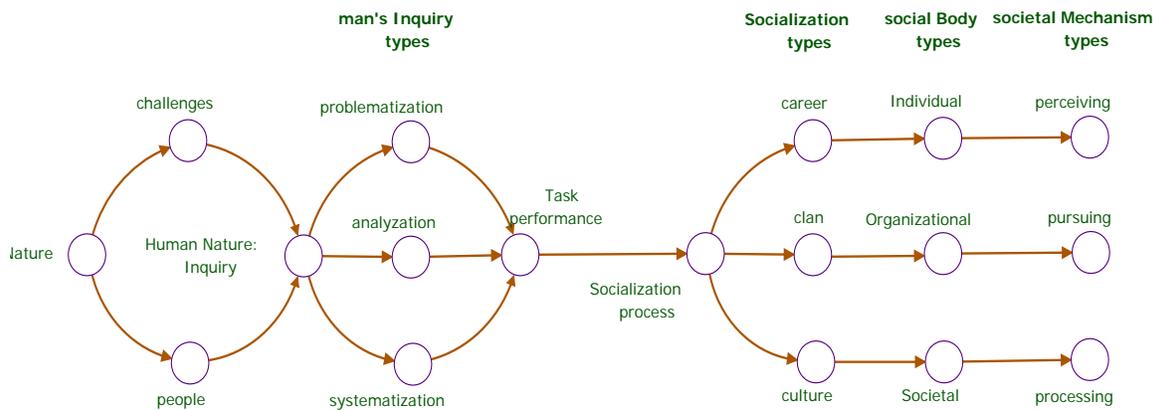
Then the modeler simulates. At this point, conceptualizing the issue by using a conceptual model is a closed well done case, illustrated in Figure 15.



How do those three societal mechanisms at (n: 14) (that is: perceiving, pursuing, and processing) are related to the three social bodies and their socialization processes at (j: 9) (that is: individual-profession, organizational-clan, and societal-culture)?

The procedure to associate them is to eliminate the mechanisms that cannot be exercised at a certain social body and the residual mechanism is the one associated to this body. To this end, at the body of the individual all three mechanisms (perceiving, pursuing, and processing) can be exercised; individuals can perform all three mechanisms. At the level of the organization, perceiving cannot be exercised but pursuing and processing can; organizations do not perceive -it makes no sense- but can pursue goals and process projects, services, and works. At the level of the society, perceiving and pursuing cannot be exercised; to think that a society perceives or pursues a goal makes sense only in a dictatorship or a Marshall law type of society, but processing projects, services, or works can be exercised. Therefore, the societal level is mainly associated with only mechanism that a society can exercise, that is the processing. Since the processing is assigned to the societal body, the organizational body is left mainly with the pursuing mechanism as the core mechanism that the organizational body can exercise. Since both processing and pursuing mechanisms have already been assigned, the last body, the individual, would be mainly associated to the only left, to the perceiving mechanism. These three societal mechanisms and their association with the social bodies are illustrated in Figure 17.

FIGURE 17
Three Societal Mechanisms



In sum, one interpretation of this scheme could be that individuals mean to use and rely on the mechanism of the own perceptions and perform tasks of profession, that organizations mean to use and rely on the mechanism of the own pursuits and perform tasks of clans, and that societies mean to use and rely on the mechanism of the own processes and perform tasks of culture, and evolve to the next phase of a social system; from nature to social system A, from social system A to social system B, and so on as illustrated in Figures 18a and 18b.

With the realization and knowing that all this needs further investigation and research, at this point I can claim that Figures 18a and 18b replicate the preceding analysis and demonstrate three key elements.

FIGURE 18a
Social System A

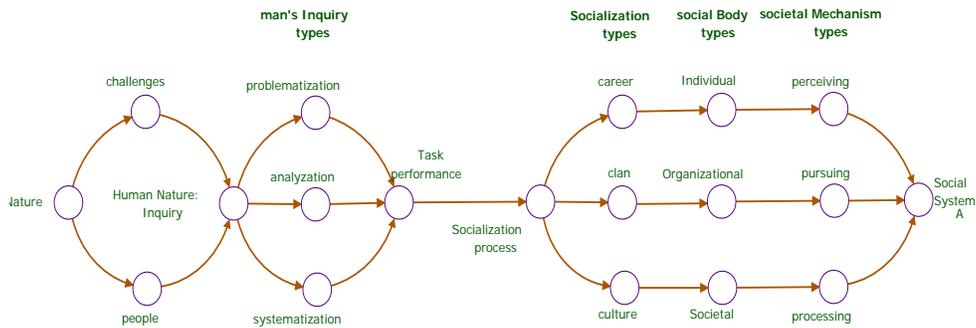
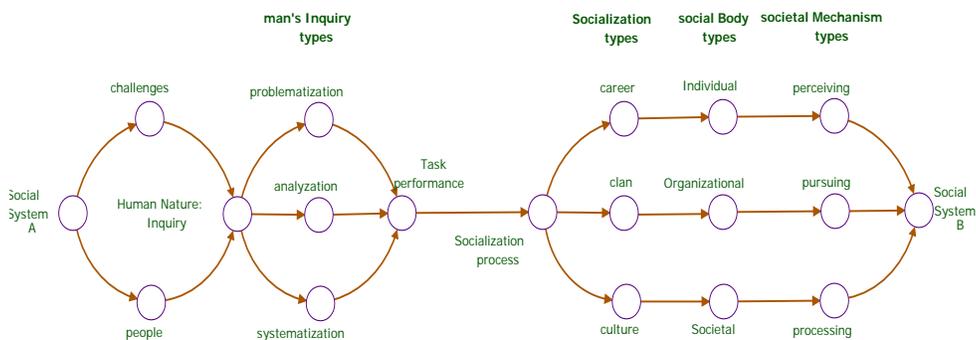


FIGURE 18b
Social System B



They demonstrate: (1) how human nature and human inquiry leads to social formation with the social bodies of individual, organizations, and society; (2) how from the human inquiry ensue the formations, bodies, and mechanisms we know today; (3) how we progress from socialization to societal and from societal to social, and what are their differences, on aggregate; (4) how the human evolves to individual and how the individual property obtain its meaning when related to social formations; (5) what is the role of culture; (6) where the role of perception lies and why; (7) why processing cannot follow perceptions unless organizations are in place to pursue; (8) why individuals cannot really pursue and achieve but only learn and perceive; (9) why societies can only process; (10) what an individual can be enriched with, when and how to pursue, why to process at which level.

The claim from the preceding correlated notions is that upon scientific research under logic over common sense, the perceptions, the pursuits and the processes mechanisms of society's different bodies are initially triggered and further developed and evolve by the people's problematization, analyzation, and systematization types of inquiry. The people's problematization, analyzation, and systematization forms of inquiry engender and cause the socialization process, the societal bodies, the social mechanisms, and their developments.

This is why this thesis will study the human, the person, the man.

Objective

In this section it is provided evidence that proves that we think explicitly on the objective and where the matters occur, not implicitly about the mechanism of perceptions by which we approach the matters, and, therefore, that “we do not understand how we understand”. It is joined with some cases showing how things could develop if the mechanism of perceptions had been considered, and with the claims from some scientists to investigate what is going on in the people’ heads.

The questions formed during the development of the three cases of ineffective thinking can be aggregated again here: At (k: 10): why and how we all could fall in such inadequacy and the resulting ineffectiveness? which criterion could one use to identify the best definition, in terms of accuracy, effectiveness and efficiency? At (l: 11): While in such calculations people use logic, what is that which in such occasions people trust better than logic and decide, by using logic, to put logic aside in choosing outcomes other than those logic directs us to choose? Is this a perception that overlooks logic? is this “a product of the agreements we have with those around us”? At (m: 14): what is this that made both parties, the modeling team and the client, to proceed with no hesitation on the due process as both parties were right on the right track? (AN: o).

To figure where is the door to enter the edifice with the insights that would help us to form answers to the questions asked at (k: 10), (l: 11), and (m: 14) three stated cases, we need to draw near this edifice and draw ideas from different angles and perspectives. To this effect, since (1) the aim of this thesis is “modeling thinking”, since (2) SyDy is “a modeling technique” (Wikipedia, 2017), and since (3) “its earliest articulations, good system dynamics practice has emphasized operational representation” (Repenning, 2003: 305), the SyDy method would adequately satisfy the strategy to draw the mentioned draws. In relation to SyDy, ineffectiveness, which is the main issue in the mentioned set of questions at (k: 10), (l: 11), and (m: 14) three stated cases, is addressed by Edmondson (1996: 575) “as a function of poorly designed systems, the inevitable result of erroneous perceptions of causality”. It is clear this statement is referring only to individuals. It refers only to one of the societal bodies, that of the individuals, and omits the other two bodies that also cause or interpret causalities. It points out the mechanism of perception, and omits the mechanisms of the organizations’ pursuits and the society’s processes. This is helpful for the purpose of this thesis. However, it is another indication of the degree of deliberately haphazard arrangement scientists view things today, when they ignore the tripartite arrangement of the human inquiry and its development. When this happens, scientists view pursuits (of the organizational body) and processes (of the societal body) -in other words, goals and regulations- as causalities whereas they perceive perceptions as mechanisms.

The revelation here is that as perceptions, pursuits and processes are mechanisms as well, just of different bodies -levels- in the encompassing society, and should be counted as mechanisms, not as causalities affecting outcomes.

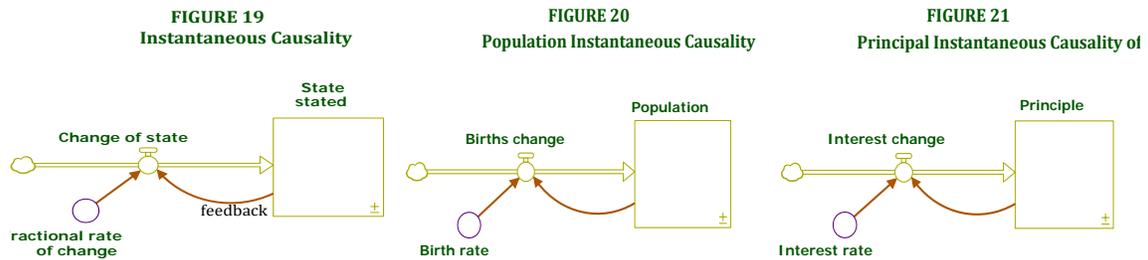
Approaching the mentioned Edmondson's with problematization inquiry would generate primarily two outcomes: (1) either the causalities are there unquestioned and causalities are interpreted by erroneous perceptions, or (2) the perceptions are there unquestioned and perceptions interpreted erroneous causalities, the wrong ones. The first has to do with goings-on in the individual's domain, the second has to do with goings-on in the objective's domain, across the individual (*AN: p*).

Whereas we all understand that the mentioned Edmondson's suggestion refers to the first one, the process in the individual, and this statement at (p: 18) renders advocacy to the common practice in SyDy, the established practice in SyDy has not shown any means in encompassing the mechanisms of perceptions and thereby detect the erroneous ones. Therefore, perceptions assumed as all acquired in a worthy way, not questioning which way and not knowing which way is that; then, the acquired perceptions are put in action one way or another -hence, assumed worthy and equivalent- and when outcomes or results are obtained, perceptions are evaluated accordingly again without knowing the mechanism that affected all that. We think in researcher terms not in terms of the mechanisms in the researcher.

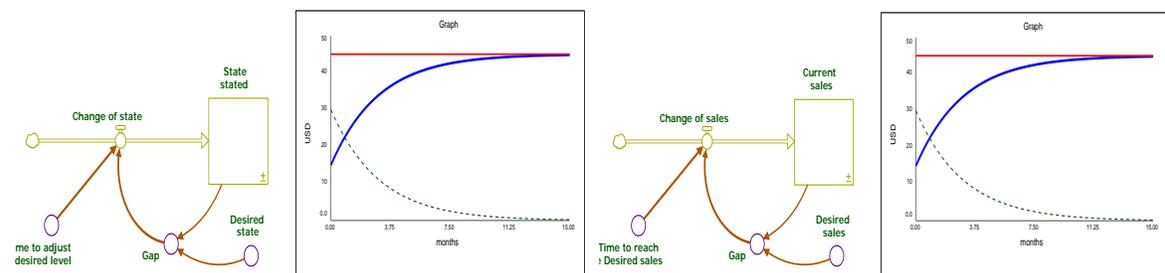
However, evaluating perceptions in relation to their outcomes should be questioned. Evaluation of outcomes usually depends on the context, culture, and circumstances. The perception that this planet is round at a point was evaluated as mistaken. We should pay attention to the mechanism under which perceptions are obtained. In sum this claim could be rephrased as, "we understand, we all do at any time and any moment, but we fail to understand how we understand". An example is this inference: "a pacification strategy was chosen by expecting that scientific results could bring parties together and bridge vested positions; [. . .] pacification is difficult, if not impossible, in complex unstructured issues; [. . .] First of all [. . .] an open dialog between conflicting points of views, including conflicting knowledge claims, has been largely absent. Secondly, sharing scientific results in order to reach consensus on their interpretation requires time. Thirdly, scientific uncertainties remain high due to the inherently complex nature of the environment; [. . .] to address these shortcomings of the pacification strategy in complex, unstructured issues, we introduce the so-called facilitation strategy" (Hanssen, Rouwette, & Van Katwijk, 2009: 43). In this, an open dialogue is absent, time is not enough, and environment is inherently complex, therefore pacification should be replaced with facilitation. Where in this inference perceiving mechanism or ability of the individuals to percept are questioned? nowhere. Perceptions are taken for granted, only causalities are investigated. Ability or process to percept is also taken as granted. Erroneous perceptions of causality have been modified to perceptions of erroneous causalities. Even in the proposed facilitation of the previous excerpt, "the most important aspect of any conference is ensuring that the right people are in the room for the modeling conference. If top management support for the effort is needed, then top management needs to be present" and "in some group model building conferences it may be useful to distinguish stakeholders, experts in aspects of the system being discussed, and members of an internal modeling team who will carry the technical work forward" (Andersen & Richardson, 1997: 109).

Even in the proposed facilitation, suggestions are made about positions, experience and roles, and there is no reference made to the mental model used or to the mental edifice as perceived by the individuals or the mechanism of perceptions per se. As well, Edmondson’s above mentioned claim lies on the same interpretative nature, for Edmondson explains in (1996: 573) “system dynamicists view ineffectiveness as a function of poorly understood cause-effect relationships in organizations, and so they focus on the ‘mental models’ that lie behind policy decisions”. That is, not which way the perceptions that interpret the cause-effect relationships were acquired but, evaluating the perceptions that led to specific policy decisions assuming (1) all of them equivalent, and (2) what counts is their results, not the source of origination.

SyDy mainly address two types of causalities, the instantaneous and the gradual. The instantaneous causality -always a stock, illustrated in Figure 19, causes the effect of changing the own flow joining this flow by feedback depending on a fractional rate and regardless of time. Simple applications of such case are the births emerged as an effect of the population in a group of mammals, in Figure 20, and the interests generated on the principal of a saving account, in Figure 21.



The gradual causality, illustrated in Figure 22, occurs overtime and the stock is part of the causality but not alone; a desire intervenes modifying the causality to be a gap, a vacuum; that is the difference between the stated state of the stock and the desired state of the people, which causes the effect of changing the flow depending on the time needed for reaching the desired state. At this point, people intervene with decisions at the desired state because they do not want what the stock renders more than what they perceive is wished or needed. Simple applications of such case are the filling a glass of water, in which a person would want to gradually reach a certain level of water in the glass and stop before it spills over, and the case of sales of a retail firm, in which the managers would have set a target of sales in order to reach the year’s goal, illustrated in Figure 23.

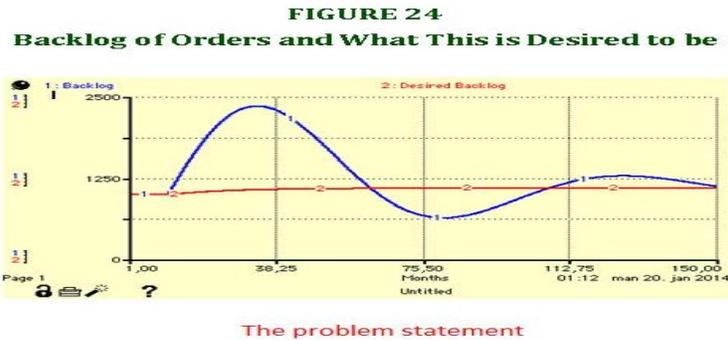


The two generic models, shown in Figures 19 and Figure 22, are the core models upon which all models in SyDy are built. Where in those one can detect “erroneous perceptions of causality” in regards to “mental process in the individual”? To do so, variables of perceptions would be needed included in the modeling, and they are not. Investigated are only objective causalities or some of the perceptions leading to perceived causalities, but not any perceiving process.

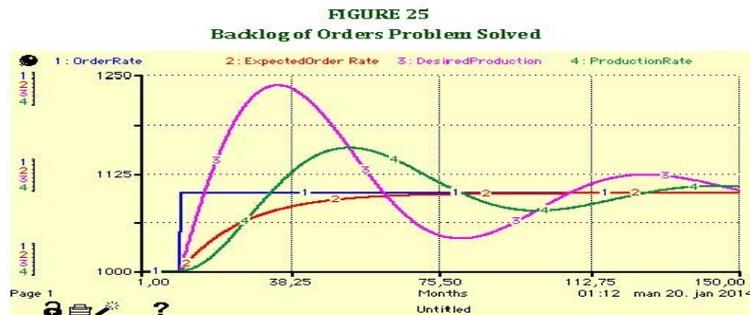
Even Elbanna’s astonishingly worded claim aims differently than it sounds; “although the body of research over the last two decades indicates the domination of the research agenda by content issues, while process issues have received less attention, there is at present renewed interest in process research” and yet even better “content research deals with issues of strategy content such as portfolio management, diversification, mergers and the alignment of firm strategies with environmental characteristics. Process research, however, deals with the process by which a strategic decision is made and implemented and the factors which affect it” (Elbanna, 2006: 2). This sounds as the perfect worded excerpt in capturing the premise of this thesis, but one more sentence, the sentence “for example, it concentrates on the way in which managers influence the firm’s strategic position” (Elbanna, 2006: 2), changes things slightly and throws this excerpt in the category of the ones dealing with the objective results, not with the process in the heads of the managers.

On another note, stocks are measured by a snapshot. To measure a stock all flows should be blocked, stopped from flowing in, so the stock would remain unchanged and at this one moment get a snapshot of its state. Doing so one can get an idea, a perception, of the state of the stock. For example, this is what businesses do with the inventory at the end of each year: businesses close their doors for a few days so they would block out all flows of incoming or of outgoing orders, of incoming or of outgoing customers, and of any other factor of change; then, they take a snapshot of the current inventory. When finished they open the doors again, they allow the flows to resume and proceed to next year. To measure a flow, businesses take two snapshots of the stock in two different moments and divide the measured difference by the time interval. So, a flow is always considered an event over time; since the denominator is always time, have we ever thought of a flow as an event characterized by the frequency of its occurrence? Dividing a quantity by the time interval in which this quantity took place (that is a flow), in other words dividing the quantity by t , it is the same if multiplying that quantity by $1/t$, that is multiplying it by ν , where $\nu=1/t$, hence, by the frequency of its occurrence. Have we perceived flows as frequencies of an event? Why such perception, transforming the event from its time to its frequency of occurrence, would be useful? Because frequency affects spectrum, whereas spectrum -“a full range of frequencies”- consists a stock of frequencies, and additionally spectrum “is a condition that is not limited to a specific set of values but can vary, without steps, across a continuum” (Wikipedia, 2017). Such inquiry can change the perception we have about stocks adding to the notion of the stock the notion that stocks are also the “context” and the notion that stocks are also the “quality”; besides all this, which needs further investigation, this is Physics. What Physics have to do with social issues and business management?

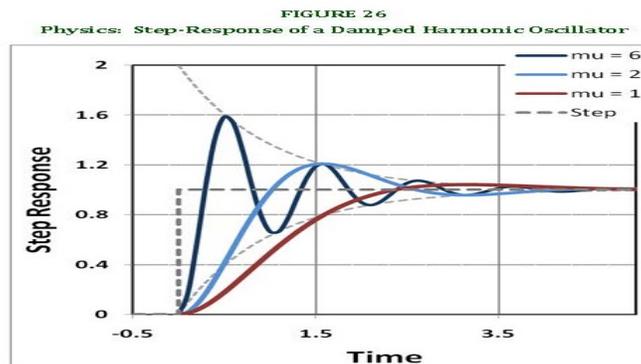
Can we apply Physics in social issues? True essential questions. What is our perception on this matter? Let's take an example. When a firm faces the challenge to fulfill the backlog of orders, and to manage this backlog in regards to production, the aim is set to bring the actual backlog of orders at the level of the desired backlog; managing such challenge will develop approximately through the phases shown in Figure 24 (Davidson, 2013: 2).



After a SyDy analysis, and a policy application, the problem was solved with the solution shown in Figure 25 (Davidson, 2013: 36-38). In this a step up in order rate (the blue line) was introduced and made the proposed policy worked.



What is the difference of this proposition from the physics one for “step-response of a damped harmonic oscillator” shown in Figure 26 (Wikipedia, 2017)? No difference.



However, although it looks like this idea is based on physics, the case originally was not related to physics. The question now is: “Could we apply physics laws in societal issues?” The question extends further: “how could we include perceptions in modeling and improve modeling with the insights of other disciplines?”

This is a matter of perception. Therefore, it is philosophy. This SyDy approach could be of further research and consist a brilliant way to prove that physics laws apply also in societal issues, something that has not been touched yet. And I suggest hereby that as far as I know hitherto only SyDy can do that. Nevertheless, throughout this thesis it would be suggested that this is the role of SyDy, making philosophy, affecting people's thinking and framework outlining, not to intertwine in detail hairy disputes that could be resolved anyway, as suggested, otherwise. Addressing the notion of the "processed perception" in a light and simplified wording, Sharma (Psychology discussion, 2016) elaborates that at any instant numerous stimuli stimulate the man's sense organs. The sense-organs convert the stimulations to sensations. Sensations then get transmitted to the brain. The brain interprets the sensations into elements that "make sense" within the human context. However, interpretation is based on past experience; an autochthonous in an equatorial jungle won't identify a cellular phone whereas an autochthonous in an equatorial city will. Having been interpreted, the stimuli become perceived.

At this point Turner states that perceptions of stimuli are never the same. "Every time our father places food in front of us, both his actions and the food will be somewhat different, and our actions in response will be somewhat different. But we recognize the objects and events as essentially the same, as belonging to the same category. We recognize a general story. Our experiences differ in detail, but we make sense of them as consisting of a repertoire of small spatial stories, repeated again and again" (Turner, 1996: 19). This means there is constant flow of perceptions of which we are not aware, therefore, we do not study this flow and its ways around.

Then, Sterman concludes (2000: 195) that mental data, "memories and beliefs" and "perceptions" (2000: 196) are stocks that generate "inertia and continuity" on the flowing in changes of attitudes, behavior, and experiences rates. Although Turner's precious cogitation of the "same categories" would easily take us to Aristotle's categories of being, or categories of knowledge, and even to Studtmann's categorialism (Studtmann, 2014), we will aggregate all these claims and views to two attestations: (1) perceptions are updated continuously, are never the same, and change all the time albeit people in general popularly think otherwise; (2) we think in categories and therefore we should examine at which categories individuals, especially managers, group participants, or organizational stakeholders, choose to classify perceptions; (3) sometime somehow we should be able to investigate and conclude what mainly those categories are and why, an aim to which this thesis aspires to contribute the first step. However, we do not see the mentioned Sharma's, Turner's and even Sterman's claims modeled in the SyDy modeling technique. Instead we are in receipt of claims that we are far from such state inasmuch as mental data "information is not adequately appreciated in the management and social sciences" and "we are not close enough to be concerned with the mechanisms of human thought" (Forrester, 1992: 46). It is clear, we are not close to the mechanisms of human thought [*and perception*]. We are in receipt of claims that "people have difficulties solving so-called 'systems thinking inventory tasks' (STI tasks).

These tasks have led to the robust discovery that individuals have difficulties in inferring the behavior of a stock from information about its flows and vice versa" (Veldhuis & Korzilius, 2016: 2). Why this difficulty to infer? Is it because we are not close to the mechanisms of human thought and mechanisms of perception? We are in receipt of claims that "tasks are fragmented, skills are diverse, and knowledge is differentially codified, held and valued. Typically, according to labor process theorists (e.g. Braverman 1974), knowledge is divided between that which is more valued, which is generally more esoteric, abstract and related to mental rather than manual labor, and that which is less valued, more mundane and related to manual labor" (Hardy & Clegg, 1999: 368). Why knowledge differentially held, valued, and divided? Is it because we are not close to the mechanisms of human thought and mechanisms of perception? We are in receipt of claims that "in 30 years of competing frameworks and analytical tools, however, no single approach to organizational intervention has emerged as the most efficacious" (Edmondson, 1996: 572). Why this discontent? Why this long? Could be many reasons, but does the one "not close to the mechanisms of perception" also make sense? What heretofore I am pointing to is that which operates in people's head and the mechanism of that operation. I am pointing to the "extensive body of operating experience in people's heads wherein lies most of the available information" (Forrester, 1992: 50), I am not pointing to this "available information" in people's heads. I am pointing to the "skeleton governing decisions" in this quote, "to deal with the dynamic characteristics of social systems, we must represent the essential policy skeleton governing decisions" (Forrester, 1992: 49), which would help to understand understanding because "this understanding of policy can be accomplished if: [. . .]. We use to best advantage the extensive body of operating experience in people's heads wherein lies most of the available information about system structure and policies" (Forrester, 1992: 50). In sum, what I am pointing to heretofore is what Plonka, stating for Feldenkrais, said it in its best, "If you know what you are doing, you can do what you want" (Plonka, 2015). Knowing what you are doing, your behavior, prerequisites knowledge of the structure of the man's mental states. This thesis is an effort to elicit the structure of the man's mental states. It will work in forming a new approach by showing how the structure of the man's mental edifice is related to the man's behaviors as well as to the man's makes and particularly to the management and organizational intervention. Could such formation of people's heads operating experience affect people's improvisation? It is claimed that "improvisation or going off script only make sense if one has script to follow" (Hovmand, Rouwette, Andersen, Richardson, Calhoun, Rux, & Hower, 2011: 1487). In regards to the mentioned question, this statement answers "No"; improvisation would make sense only when formation is in place and not before. Such a process is what this thesis proposes. Since we know that a "process is called 'idea-imposition' " when "the idea prompts action" and also a "process is termed 'discovery' " when "it calls for learning about possibilities" (Nutt, 2008: 426), the process proposed in this thesis is a discovery. It doesn't prompt to action yet but calls for learning about possibilities. Yet, "a discovery process may be abandoned if an opportunity is spotted that seems beneficial" (Nutt, 2008: 426).

Context: the Nature of this thesis

In this section it is claimed that the nature of such approach is “organizing concepts”, “reforming mental models”, and dealing with personal limitations.

Conceptions, perceptions, and the mechanisms of mind critically govern attitudes, approaches, and actions. However, social sciences overlook this fact and occupy time with perusing extroversively what happens in the world across us, not perusing introversively what happens in the mind; we tend to overlook the latter.

To this regard, we treat the use of mind like we all use the same thing; probably not of the same quality and probably not of the same capability, but in the back of our head we assume we are equipped with the same thing (that is the mind) and that we only differ at the use of this mind and the choices we make with it; choices that affect the quality and capabilities of the mind, hence, we think it is those that make all the difference, and no difference in the innate nature of the mind is or should be there.

The notion of equality finds its roots here. The need for equality interprets that we are all made the same way and we all are not different. We assume so because we need to account full responsibility for our actions and then punish or reward such actions and further investigate for improvement, the so called progress. Without this equality, and if we consider difference in the innate human nature, the entire system of human life would be needed update and restart from scratch.

This is the layer upon which we have built our lives in a way that we never question openly the others’ and ours’ mechanisms of mind and in regards to it “we mind our own business” whilst we let go the most important thing, particularly in management: the way the others’ and our mind functions.

However, in the back of our head while in action, in meetings, in life, we know this is what matters and if asked we state it.

Between the two a bridging concept is needed, and for this I would borrow Mitchel’s et al. (1997: 862) wording; that is “as a bridging concept, we [I] argue that the broad concept [. . .] must be better defined in order to serve the narrower interests”. The bridging concept I propose is the broad concept of conception and perception -and concept and perception evaluation; and, like Mitchel et al. state also I enunciate, that this bridging concept must be better defined in order to serve the narrower interests.

Why that? Because what on aggregate we achieve this far is classifications, such as comprehensive, analytical, or political and “classifications, such as comprehensive, analytical, or political, fail to explain how decision makers act comprehensively, conduct analysis, or engage politically” (Nutt, 2008: 431). So, Nutt points the need to explain how decision makers act and I agree. I enunciate that this need takes our attention from classifications to human thinking and we would do that with the help of the SyDy modeling. My work in this thesis constructs that.

I think, “the originality of this paper lies in the proposition of the usage of system dynamics modeling in change management settings” (Snabe & Grössler, 2006: 467) and also lies in the proposition of the usage of system dynamics modeling in thinking of human settings because “in fact, all organization goals derive from people” and “in an organization, the individual is both goal and means” (Hofstede, 1978: 460).

However, individuals and people affect organizational goals by the personal limitations. For this, Merchant points that “one important class of problems against which control systems guard may be called personal *limitations*. People do not always understand what is expected of them nor how they can best perform their jobs, as they may lack some requisite ability, training, or information. In addition, human beings have a number of **innate perceptual** and cognitive biases, such as an inability to process new information optimally or to make consistent decisions, and these biases can reduce organizational effectiveness” (Merchant, 1982: 43) (*AN: bold mark initiated by the author*).

Because of the mentioned Merchant’s reduced effectiveness “there is no consensus about goals, and replacing the organizational reality by a model which treats people as means is no longer allowed. Using a cybernetic model [. . .] in such a case means a covering up of the real issues” (Hofstede, 1978: 460).

Hence, the solution I propose is “ ‘the modeler may encounter powerful organizing concepts that make possible the reformation of the whole study in a simpler, more elegant form’ (Randers 1980: 135)” (Campbell, 2001: 200) because “ ‘organizing concepts’ are the key components of the re-formed mental model. They are the way that simplicity emerges from complexity” (Campbell, 2001: 200).

“This void in the literature motivated my work” (Nutt, 2008: 431).

My work in this thesis proves that there are impulses in the autonomous area of the preconscious and automatic level of the human that affect our inquiries and hence, attitudes, approaches, and actions. Right there is where the equal make of man lies and right there is where the difference among the people lies, even before we make choices or consciously use the mind.

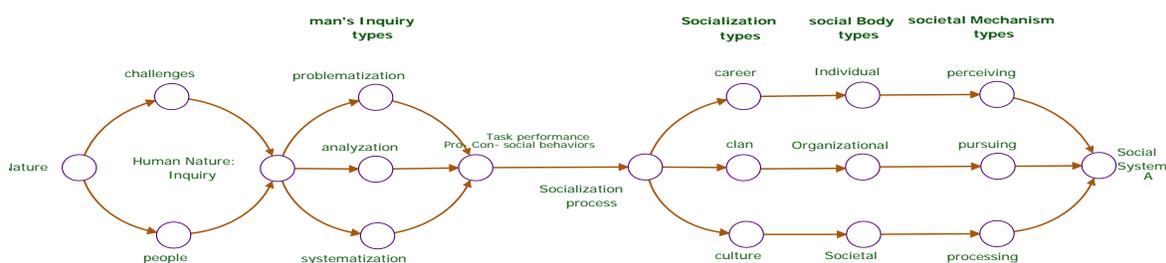
“Confusion is the natural experience during this transition” (Campbell, 2001: 200).

CHAPTERS

Chapter One: the Structure of the human's nature

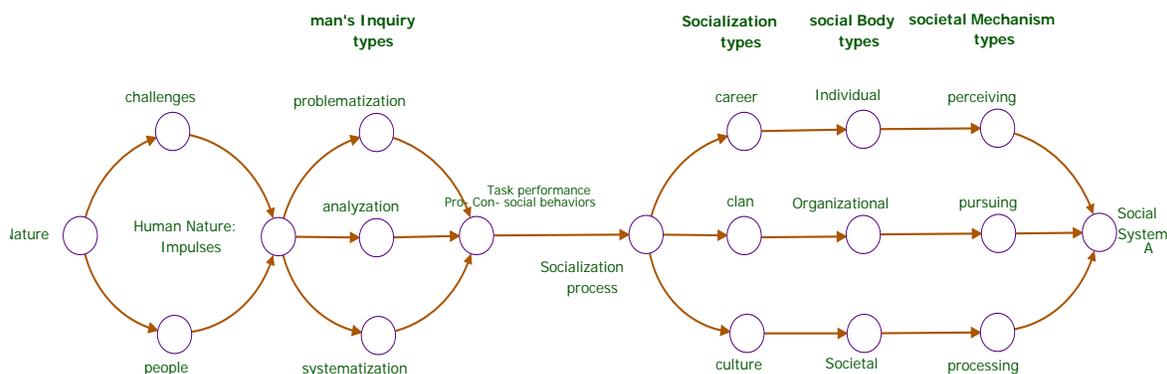
In this chapter it is concluded that behind human actions are the three impulses lying within the man nature, how they form the three types of the human inquiry that direct all our actions, and what is behind the inquiry that led us without any regret to societal togetherness. This is followed by “the wide approach and breadth of coverage of literature” mentioned in the Methodology reporting on those impulses, their function, and what are the several names used for those impulses, out of which the name “operators” is the chosen for the purposes of this thesis. Upon scientific research under logic over common sense, the perceptions, the pursuits and the processes mechanisms of society's different bodies are initially triggered and further developed and evolve by the people's problematization, analyzation, and systematization types of inquiry. The man's problematization, analyzation, and systematization forms of inquiry engender and cause the socialization process, the societal bodies, the social mechanisms, and their developments. But what does in the man cause the development of the man's problematization, analyzation, and systematization inquiry types? Whatever it is, (1) it has to be located in the interval between the man's nature and the man's approach to a challenge, therefore, it should be within the man; it is implicit! (2) since it is implicit, whatever it is, it has to always operate and operate in about the same form, otherwise it couldn't be checked and wouldn't be trusted that will work reliably, and therefore, it is a pattern; (3) since it is a pattern and aggregately checked and trusted, it should be at hand of handy use, therefore, it would be operating on an essential nature basis available to the broad anyone, therefore, it should be a disposition. Therefore, whatever causes the development of the man's inquiry types is an implicit patterned disposition (*AN: q*). Since the two Wiebe's behaviors defined at (a: 4), the prosocial and self-directed behaviors, mean socialization or not, the choice of those two appears after the formation of the three types of inquiry because the three types of inquiry are adoptable and applicable equally in a prosocial or in a self-directed behavior. In fact it makes sense that one would form a choice after the stage of inquiry, actually at the stage of the task performance. Inquiries are not behaviors and performances are. It is a performance, the task performance, that is consisted of behaviors and thereafter shapes new behaviors in return. Hence, Wiebe's two behaviors are part of the task performance and can be placed at the task performance in Figure 18a, updating it so to Figure 27. Thereafter those two behaviors can be recalled at any stage of the platforms of the social evolution mentioned as socialization, societal, and social developments. At any of these platforms one can choose pro- or con- social behavior and tactic.

FIGURE 27
Pro- Con- Social Behaviors



At (b: 6) we attested that to handle those two behaviors and manage to direct them to the direction that enhances the group's interests we should aim to the "natural impulses", to restrain or satisfy them. Wiebe claims that, what we are looking here for, is natural impulses at the preconscious, automatic level; he says that "evidence from developmental psychology (Kagan, 1994; 1998), economics (Frank, 1988), political science (Wilson, 1993) and Darwinian social science (Alexander, 1987; de Waal, 1996) suggests that many prosocial behaviors stem from natural impulses (see generally Sanderson, 2001). According to this research, prosocial behaviors can be sanctioned by emotional systems that operate at a preconscious, automatic level. They can also be facilitated by cognitive biases and innate faculties, such as language, that fail to develop only under extraordinarily deprived circumstances (Pinker, 1994, 1997)" (Wiebe, 2004: 69). So, we viewed that, in time, self-control, as deduced at (d: 6), directs to prosocial behavior but now prosocial behavior is driven by impulses, actually it is driven by natural impulses. Thus, self-control is managed by affecting natural impulses. Hence, if the two behaviors (the pro- and con- social) are affected from natural impulses in the preconscious and automatic level, that means they lie in the nature area, in the area before the formation of the inquiries; specifically, they belong in the human nature. This means that the general, but true, Babbie's "Human Nature: Inquiry" should be updated with the precise "Human Nature: Impulses", and so be the Figure 27 updated to the Figure 28.

FIGURE 28
Human Nature: Impulses



Therefore, here lies the answer to the mentioned question: impulses drive inquiries and form the three inquiry types (we will see further down why the three types); then inquiries drive task performance and the two choices, the pro-social or the "pro-self", so to speak; next, task performance leads to socialization which evolves to societal and social final stages.

Inasmuch as "the gap between the capacity to labor and its effective realization implies power and the organization of control" (Hardy & Clegg, 1999: 370), and this ratiocination makes broad sense not only for labor but for any action, exercise, or practice at which the doer owns the capacity but someone else recognizes the capacity's effective realization, this inference of control could allow us to analogically borrow from Flamholtz, Das, and Tsui a precise scheme and its idea about the interrelation of control and operators.

Flamholtz et al. state (1985: 36) that “while the scope of the paper is admittedly somewhat broad, no attempt is made to examine all possible approaches to the subject of control [. . .]. The selective emphasis is on those approaches which deal with the behavior of human operators” and refer, not to the first societal body -the individual- but, to the second societal body, to the organizational, and the organizational control as it is related to the human operators in an organization. The analogy I mentioned that is borrowed here is (1) primarily the scheme that in the individual’s, the man’s, own organization there are operators, natural operators, (the Wiebe’s three impulses) that control outcomes (the Wiebe’s self-control) and inquiries such as problematization, analyzation, and systematization, and (2) secondarily the idea that my consideration about those operators is selective, the selective consideration which deals with the behavior of those operators -of those impulses- within the man.

Wiebe, in the last quote (2004: 69), indicates that behaviors can be sanctioned and facilitated (*AN: r*); therefore, with the synergy of the indicated catalyst -the “innate faculties”- Wiebe classifies those impulses (operators) to three: behaviors, emotional systems, and cognitive biases. This statement is a great one; it tells us (1) some about the role of the emotional -to sanction- and some about the role of the cognitive -to facilitate- systems but also that (2) the impulses (operators) are three. Is this true?? Can it be verified by other sources?

Mainly, all sources of information agree that these operators within the man are three but not which ones are those three. Initially, and “fairly recently”, the approach that the operators of the man are three was claimed in the first epistle to Thessalonians “your whole spirit and soul and body be preserved blameless” (Verschuur, 2007: 1 Thessalonians: 5:23) and in the trichotomy view of the man in the tripartite theology (Wikipedia, 2017). As spirit is defined the “essential nature” (Wordreference, 2017) and “the principle of conscious life; the incorporeal part of humans” (Dictionary, 2017); as soul is defined the principle of life, feeling, thought, and action in humans, regarded as a distinct entity separate from the body, and commonly held to be separable in existence from the body” (Dictionary, 2017); as the body’s simplest description, “the body of an organism”, defines the soma (Merriam-Webster, 2017) -a Greek word for the “human body”, this term -soma- will supplant the term body for the purpose of this thesis.

Let’s title this very systematization of the three operators of the human being -Spirit, Soul, and Soma- as “the spiritual view”. Although both of the terms spirit and soul are widely used and elaborated, and even the term “psyche” -Greek “ψυχή”- inclusively contains both, scientifically we do not know what spirit or soul is. Also, we do not know whether it is these two interacting and how, to the effect of producing the man’s three types of inquiry, problematization, analyzation, and systematization.

From Gehrman and Sudheera, in Geriatrics, we learn that “thinking can produce changes in emotion and behavior” (Pandi, Monti, & Monjan, 2010: 384).

According to Crandall, in psychology's social interest sector, Adler preceded in a more integrate as well as precise way; "with regard to the process dimension, it seems that Adler meant to introduce all of the classical tri-partite conception of human nature: thinking, feeling, and acting" (Crandall, 1975: 107). But if this conception is classical, what is the need to have Adler introducing this again? Is here lying a connotation that it is a forgotten theme? Nevertheless, this is a clear reference that (1) points specifically at the human nature as of a tripartite conception, (2) names these three parts "conceptions" and specifically the behavior as "acting" conception, and (3) refers to this tripartite conception as "classical".

Monjan, in *Neurobiology of Aging*, faithfully takes the sleep problems in the dimensions of thinking, moving and feeling with his work "sleep and thinking, moving and feeling" (Monjan, 2017) recognizing the importance of the tripartite conception in dealing with the sleep disorders.

An impressive, interesting, insightful approach to the world of the man and its relation to the tripartite conception of the man has been presented by Samuel Bois, a French Canadian Jesuit priest who, after forced out of Church in 1920's, completed a degree in psychology and became chief lecturer of the Institute of General Semantics (IGS) in Chicago.

Brenden (2009: 5) states that "according to Samuel Bois, there are four ellipses which interact with each other to produce human actions. Three of the four ellipses cover activities which are observable. These ellipses are labeled C (thinking), B (feeling), and A (self -moving)". Brenden continues that "the top ellipses (C) covers activities that include thinking. Thinking activities include: 'ideas', language, symbols, writing, reading, talking, listening, figuring out problems, planning etc. A financial statement, newspaper, bar graph letter, telegram, etc. are things that we use to think and communicate. The next ellipse includes activities that come under the term feeling. There is a significant difference between thinking and feeling. Examples of feeling include: pleasure, joy, anger, fear, desires, purposes, needs, worries, wishes, excitement, curiosity, and boredom. The feeling before a first date, a raise in salary, a kiss, a hand shake of appreciation, the planning of a move. Ellipse A includes what are called the self-moving activities. These activities include the autonomous functioning of the organs and voluntary movements of the body. Our hearts pump out, lungs expand and contract, the whole body grows. Someone works with his hands, walks, speaks, shouts, sings, cries, eats drinks, throws a football, drives a car, etc. The next ellipse X includes the mysterious activities that scientists discover and measure. This ellipse represents the field of electrocardiograms, electroencephalograms, and electromyograms of anesthetics, insulin, vitamins, and hormones; of the lie detector, and of electroshocks. These various activities overlap and interact with each other. When something happens in one section, something happens in all sections. Each ellipse has a direct effect on the others" (Brenden 2009: 5). Brenden finally claims that "because of what we've said, we can say that 'man is a thinking, feeling, self-moving electrochemical organism in continuous interaction with a space time environment' " (Brenden, 2009: 5).

This definition is the most directly linked to the man's three conceptions; "man is a thinking, feeling, self-moving electrochemical organism in continuous interaction with a space time environment". For the purpose of his study Samuel Bois separates the observable physical activities (autonomous functioning and voluntary movements) from the non-observable physical activities. Heart pumping, whole body growing, working with hands, walking, speaking, shouting, singing, crying, eating, drinking, throwing a football, driving a car are separated from the observed only scientifically electrocardiograms, electroencephalograms, and electromyograms of anesthetics, insulin, vitamins, and hormones. But for the purpose of this thesis I, hereafter, will refer to all of the observable physical and non-observable physical activities as just physical activities based on the fact that both do not occur in the thinking nor in the feeling ellipse and also they occur -are realized- and become recordable just on and by the physical body, the self-moving ellipse. At this point I concede that I constrict Bois's four ellipses down to three, the thinking, the feeling and the self-moving -to use Bois's own terminology. Since (1) "these various activities overlap and interact with each other [*and*] when something happens in one section something happens in all sections [*and*] each ellipse has a direct effect on the others", since (2) always something happens in one section and therefore in all sections, and since (3) the man is an organism consisted of those three ellipses -the operators at definition (q: 26)- it is inferred that the man's three inquiring approaches emanate from these three operators of the man. Our problematizations, analyzations, and systematizations inquiries are arisen from the three operators -ellipses- as they overlap, interact, and directly affect one another (*AN: s*).

From the descriptions claimed for each of the operators, named thinking, which is ideas, language, symbols, writing, reading, talking, listening, figuring out problems, planning, could also be named as the Intellectual; the operator named feeling, which is pleasure, joy, anger, fear, desires, purposes, needs, worries, wishes, excitement, curiosity, boredom, could also be named as the Sentimental or Emotional; and the operator named self-moving, which is the autonomous functioning, the voluntary movements, the body, pump, expand, contract, grow, working, walking, speaking, shouting, singing, crying, eating, drinking, throwing, driving, the electrocardiograms, electroencephalograms, electromyograms, insulin, vitamins, hormones, lie detector, electroshocks, could also be named as the Kinetic. Thus, the man's operators' names known hitherto, all equivalent in containing the same information, are listed in Table 1.

TABLE 1
the Man's Operators' Names Granted Thus Far
All Equivalent

Impulses; Operators; Conceptions; Ellipses		
Thinking	Feeling	Acting
Thinking	Feeling	Self-moving
Intellectual	Emotional	Kinetic

Psychology's sector "personality psychology" is an idiosyncratic case of science. For one, "there is no consensus on the definition of 'personality' in psychology" and for two "most researchers and psychologists do not explicitly identify themselves with a certain perspective and often take an eclectic approach" (Unified Psychotherapy, 2017). For example, the definition of personality that is most widely supported to date is attributed to the neurologist Paul Roe who defined personality to be "an individual's predisposition to think certain patterns of thought, and therefore engage in certain patterns of behavior" (Unified Psychotherapy, 2017) but no one can verify who is Paul Roe nor his definition's source.

Likewise, myself following the same "eclectic" pattern, I would choose the definition that serves the purpose of this thesis and "fits my needs" in this case with the three operators. That is given by Ryckman (2004: 4) who claims that "Despite the many definitions of the term, investigators generally agree that personality is the dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviors in various situations" (*AN: t*). This definition will be of great help further below, but here we recognize another tripartite set of names referring to the same operators; cognitions, motivations, behaviors. To see how Ryckman express their interrelations we read further that "it [*personality*] can also be thought of as a psychological construct -a complex abstraction that encompasses the person's unique genetic background (except in the case of identical twins) and learning history, and the ways in which these factors influence his or her responses to various environments or situations". Well, then personality encompasses (1) the person's background and learning history, and (2) the ways that those influence the responses to various situations. Heretofore, deduced is that the Ryckman's "responses" are what is named in this thesis "inquiries" and Ryckman's "situations" are what is named in this thesis "challenges" and the Table 1 can be updated to Table 2 with the new Ryckman's terms for the three operators.

TABLE 2

The New Ryckman's Terms for the Tripartite Operators

Impulses; Operators; Conceptions; Ellipses; Principles

Thinking	Feeling	Acting
Thinking	Feeling	Self-moving
Intellectual	Emotional	Kinetic
Cognitions	Motivations	Behaviors

Leaving aside all this idiosyncrasy of personality's psychology sector, yet there is "an abundance of theoretical traditions" and "also a substantial emphasis on the applied field of personality testing" (Unified Psychotherapy, 2017), in which we can fathom and broach evidence for the three operators.

Some of the personality tests have been constructed on the base of the three mentioned operators and this shows that some practical sectors of science know about and use them. Among some twenty five just examples of personality tests (Wikipedia, 2017), the example of Forté Profile -a communication style personality test- “identifies a person’s natural communication style preferences and strengths” and “also identifies an individual’s current logic style, current stamina level, and current feelings about goal attainment” (Wikipedia, 2017). It is apparent that the “logic style” refers to the Thinking operator, the “feelings” to the Feeling operator, and the “stamina level” to the Acting operator, and so follows the Table 2 updated to Table 3.

TABLE 3
The Table 2 Updated

Impulses; Operators; Conceptions; Ellipses; Principles		
Thinking	Feeling	Acting
Thinking	Feeling	Self-moving
Intellectual	Emotional	Kinetic
Cognitions	Motivations	Behaviors
Logic style	Feelings	Stamina level

Besides personality tests, some therapies are also constructed on the base of the three operators. The National Center for Biotechnology Information (NCBI), a part of the USA National Library of Medicine (NLM), a branch of the National Institutes of Health, broach the pattern thinking, feeling, moving “as an adjunct to a multidisciplinary rehabilitation for chronic pain” (Christie, Hood, & Griffin, 2006: 569).

A peculiar approach, which I would place between the “spiritual view”, mentioned in the section with the spirit, soul, and soma above, and the scientific views mentioned thereafter above, is Leon McLaren’s one. Leon McLaren, in fact avoids to have to explain possible adversities between spiritual and scientific views by naming the three operators of the human as “principles” and that they are located on the physical body in centers, the named “cerebrals”. Doing so, he merges both spiritual and scientific views and additionally he broadens the idea of the Kinetic, the acting operator, from its facile idea of the body and its limbs by (1) locating it in the “cerebral center” of the belly area, (2) naming it “active principle”, and (3) describing it as “all movements in the body are initiated and executed by the nervous system under the direction of the active principle” (McLaren, 2000: 3). McLaren further describes the other two operators -principles- and their cerebrals in his own terms. “The feeling principle lends a quality to our movements”; “the reasoning principle provides the available information necessary for delicate movement”. Then states how rationalism and ratiocination comes in play: “when reason predominates in us, we see the world and ourselves as reason sees them; we act as reason would have us act; and respond as reason would have us respond. Then we are wholly reasonable” (McLaren, 2000: 3).

McLaren points there are three cerebrals in the human, the head, the heart and the belly. While he uses the new term “cerebrals” to name the locations of the three operators, he also names the man “a tri-cerebral being” and denotes the importance of their combined operation by pointing out how the human would appear if in the human only one cerebral would operate in its entirety. “When a man is all head, he cannot do anything, despite his theories; when he is all belly (body), he never stops doing and is forever running his poor head into brick walls; when he is all heart, he wanders ineffectually through a sentimental swamp of non-comprehension. To be all one is hopeless; all three are necessary. The head is best disposed when it is clear, cool, silent and present; Its function is to observe to direct and keep order; It must be watchful in order properly to fulfill its function. The heart cannot work well when it is filled with feelings for ourselves, anxieties, fears, expectations and all the rest; to feel for others; that is its function. The body, centered in the belly, is concerned with sustained effort, physical skill, fortitude, endurance, ambition and the rest; it must be ready, sensitive, prepared for action. The three parts, familiarly called head, heart and belly, are all related to three great principles in us; the reasoning principle the feeling principle and the active principle. To understand man, and to understand the sensory world of sights, scents, sounds, tastes and sensations in which he moves, one must understand the threefold nature of man. The reasoning principle, the feeling principle, and the active principle are the three great principles within him. Each of them has its own nature, work, way of viewing the world, and way of responding to it” (McLaren, 2000: 2). At this point I initiate the update of the previous Table 3 to the newer Table 4.

TABLE 4
The Update of the Previous Table 3 to the Newer Table 4

Impulses; Operators; Conceptions; Ellipses; Principles		
Thinking	Feeling	Acting
Thinking	Feeling	Self-moving
Intellectual	Emotional	Kinetic
Cognitions	Motivations	Behaviors
Logic style	Feelings	Stamina level
Reasoning	Feeling	Acting

Also can add the operators’ cerebrals, that is their location in the body, which I would like to rename also as “seats”, illustrated in Table 5.

TABLE 5
Adding the Operators’ Cerebrals, their Location in the Body

Operators; Impulses; Conceptions; Ellipses; Principles		
<i>Impulses' cerebrals (or seats):</i> <u>Head</u>	<u>Heart</u>	<u>Belly</u>
Thinking	Feeling	Acting
Thinking	Feeling	Self-moving
Intellectual	Emotional	Kinetic
Cognitions	Motivations	Behaviors
Logic style	Feelings	Stamina level
Reasoning	Feeling	Acting
<i>Bottom Line Signature:</i> <u>Head</u>	<u>Heart</u>	<u>Belly</u>

Should I remind here Wiebe's (2004: 69) indication that behaviors can be sanctioned and facilitated at (r: 28)? Although Wiebe specifies this for the prosocial behaviors, yet the behaviors in this case can be sanctioned by the emotional sector and facilitated by the cognitive sector. I can add the case of sanctioning and facilitating in Table 6.

TABLE 6
Sanctioning and Facilitating Cases of Activities

Impulses; Operators; Conceptions; Ellipses; Principles		
<i>Impulses' cerebrals (or seats):</i> Head	Heart	Belly
Thinking	Feeling	Acting
Thinking	Feeling	Self-moving
Intellectual	Emotional	Kinetic
Cognitions	Motivations	Behaviors
Logic style	Feelings	Stamina level
Reasoning	Feeling	Acting
Facilitating	Sanctioning	Behaving
<i>Bottom Line Signature:</i> <u>Head</u>	<u>Heart</u>	<u>Belly</u>

Although many more activities of the operators can be detected, here is an aggregate summary of Chapter's one stated activities of the operators:

Thinking: clear, cool, silent and present; ideas, language, symbols, writing, reading, talking, listening, figuring out problems, planning, think, communicate, observe, direct, keep order.

Feeling: to feel; pleasure, joy, anger, fear, desires, purposes, needs, worries, wishes, excitement, curiosity, boredom, feeling before a first date, a raise in salary, a kiss, a hand shake of appreciation, the planning of a move, feelings for ourselves, anxieties, fears, expectations.

Acting: sustained effort, physical skill, fortitude, endurance, ambition; the autonomous functioning of the organs, the voluntary movements of the body, hearts' pump out, lungs expand and contract, whole body growing, work with hands, walk, speak, shout, sing, cry, eat, drink, throw, drive, the field of electrocardiograms, electroencephalograms, electromyograms of anesthetics, insulin, vitamins, hormones, the lie detector, the electroshocks.

Chapter Two: an Effect of the human's nature

In this chapter it is broached how the ignorance about the operators -as part of the human nature in the form defined in the previous page- affects the scientists, and what is the operators' effective function.

At the (s: 30) note, above, it is inferred that the man's problematizations, analyzations, and systematizations inquiries stem from the three operators -ellipses- as they overlap, interact, and directly affect one another. These operators engage in a random, rather than isometric or equivalent, functioning type of mixture. When one overlaps, as long as it overlaps, prevails and dominates the inquiries and choices while the rest still participate. The Ryckman's approach, at (t: 31) above, verifies that "personality encompasses the ways that influence the responses to various situations". Therefore, the mixture that comes out from this "overlapping and reaction" of the three operators is reflected in the different types of attitudes by which we characterize personalities. Those attitudes have been structurally named and classified, in this thesis, as the inquiries of problematization, analyzation, and systematization. Ryckman (2004: 4) elaborates even more that "thus, many investigators regard the study of personality as primarily the scientific analysis of individual differences that help to account for why and how people react uniquely, and often creatively, to various environmental or situational demands. The primary focus of interest in the discipline is on the creation of theories that offer explanations for each individual's unique ways of responding to his or her physical, social, and cultural environments".

Hence, the three operators overlap, react, and affect each other in different ways and this makes all the different types of personalities, and persons, we experience around us. This constitutes Ryckman's -just mentioned- "creation of theory that offers explanations for each individual's unique ways of responding" and it is a reasonable "account for why and how people react uniquely". In effect, if we name the person that enjoys physical activity a "kinetic person", such person would understand "feeling" as a strong exciting current that flows through the muscles of the soma while an "intellectual person" -naming as such the person that enjoys intellectual activity- would understand "feeling" as an intellectual joy in the brain without a strong physical effect in the soma. As another example, an intellectual personality most likely would respond with an analysis about the components in a piece of painting art while an emotional personality would have feelings at the sight of the painting's colors landscape and theme alone. Also, a mathematician would talk for the book just read by analyzing its concepts whereas a singer would talk about the feelings arisen from reading it. These three operators, while randomly overlap and interact, form the different types of persons, different personalities. We are subjected to be moved by those operators and our inquiries are directed by such move. This applies to all persons, also to scientists.

Scientists are persons, and form personalities as well, but it seems that they are not aware of the effect of this operators' mixture. If they were, they would define the way they determine their own inquiries, they would indicate from which operator's standpoint they view and claim things and findings, but they fail to explain so (*AN: u*).

Vennix, and via Vennix the scholars he cites such as Einhorn and Hogarth, Lichtenstein, Fischhoff, and Phillips, touches upon this very fact, which took so long to be attested that scientists act as laymen, yet empirically, not scientifically concluded. Vennix states “research in the tradition of behavioral decision making has demonstrated that the biases and heuristics which play a role in judgment and choice do equally apply to laymen and scientists. Stated differently, when confronted with a decision making task experienced scientists display the same biases and employ the same heuristics as lay persons. I think the lesson we have to draw from this is that even as interveners we have to be modest when it comes to helping other people. However, this attitude might prove difficult since empirical research has demonstrated time and again that people are generally overconfident with regard to their own judgment (Einhorn and Hogarth, 1978; Lichtenstein, Fischhoff and Phillips, 1982)” (Vennix, 1996: 142).

This following case can verify my claim; the classification Samuel Bois invented - cardiograms, electroencephalograms, electromyograms of anesthetics, insulin, vitamins, hormones, of the lie detector, of electroshocks- has been ascribed to the fourth ellipse (operator) X because it has been perceived from the Intellectual standpoint of his, but it could be ascribed to Kinetic cerebral if seen from the Kinetic standpoint of the author. Similarly, McLaren’s classification of the heart -to feel for others is its function- is perceived from the emotional operator (ellipse) standpoint whereas his next classification of the head -head is best disposed when it is clear, cool, silent and present- is perceived from the Intellectual standpoint of his.

For the same reason we have two definitions or types of empathy; “Two types of empathy can be distinguished: affective empathy via shared emotions and cognitive empathy, also referred to as Theory of Mind (ToM). ToM can be subdivided into cognitive ToM (knowledge about *beliefs* of other people via perspective taking) and affective ToM (knowledge about other people’s *emotions* via perspective taking)” (Pijnenborg, Spikman, Jeronimus, & Aleman, 2013: 299).

This empathy’s definition is remarkable in regards to this thesis claim. We witness here stated not only two types of empathy, the affective as seen by the Emotional operator and the cognitive as seen from the Intellectual operator, but also accurate names and explanations, although not a reference to why this classification. Furthermore, we witness here that even the one of these two types, the seen from the Intellectual standpoint -the cognitive, is subdivided to two parts: to one part viewed intellectually (*beliefs* -of others via perceptive taking) and the other part viewed emotionally (*emotions* -of others via perceptive taking). This is a nice example, of one operator (intellectual) overlapping the other (emotional) and interacting. This comes from psychology, in particular from the sector of schizophrenia. In another discipline, the business management, in the sector of Group Modeling Building, Vennix (1996: 152) states that “two types of conflict are generally distinguished. One type is affective conflict, also denoted as socio-emotional or personal conflict. Affective conflict is rooted in the interpersonal relations within the group” and this is quite obviously the emotional operator’s approach.

Vennix continues (1996: 153) that “a second type of conflict is substantive or cognitive conflict. Substantive conflict is related to the group task and generally involves differences of opinion or viewpoint” which quite obviously is the intellectual operator’s approach. I point that scientists spent lot of time to unaware and empirically recognize the results of the operators’ work in their research endeavors. Nothing and nobody has directed them to state the same statements, they didn’t make up such statements or findings. How about if the classification that now this thesis presents was known? What would the benefit be? Would it be of a greater quality in the scientific approach and time saving work? This fact, that is, having the aforementioned scholars perceiving views from one or the other operator’s standpoint without acknowledging this respect, has resulted in numerous disputatious cases in most of which, whereas scientists of different perspectives are all correct, scientists look involved in argumentation, or lack of consensus, and/or division. I strongly want to state that this is the case in the claim that “in the science-policy interface, science is not a unified and autonomous entity. Rather, competing scientific understandings are amplified by socioeconomic and political contexts” (Hanssen et al., 2009: 43). Scientists are not a unified and autonomous entity because some remain faithful to the intellectual standpoint of the science, that of the pro-scientific research and findings, whereas some others proceed in supporting the active operator of science, that of pro-economic policy making and intervention and this looks disputatious. However, aren’t both sides correct? yes, they are. The first cluster of scientists is correct if scientific understandings are seen from the intellectual operator standpoint and the second cluster of scientists is also correct if scientific understandings are seen from the active operator standpoint and by having both correct there is no way each cluster will merge with the other and the “competing scientific understandings” will go on and on and on -this is what we experience anyway- unless people (the scientists in this case) understand that what happens is normal and it will never change due to this fact’s nature, that is, seen things from one or the other of any of the three different operators’ standpoint.

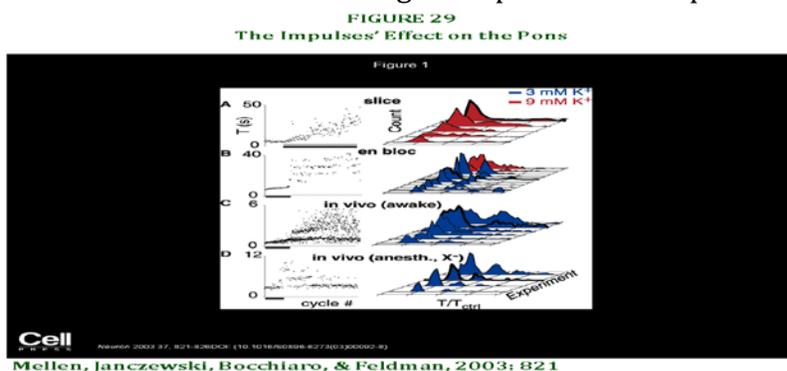
King and Kraemer state that “rather than providing a base of information and analysis that produces the ‘correct’ answer, thereby causing consensus under the ‘truth wins’ decision rule, models often serve to channel discussion in ways that provide offensive or defensive advantage to particular parties” (King & Kraemer, 1993:7), and the disputation they state is: “To some, this is an unfortunate outcome, ‘politicizing’ the use of models. To others, however, it is a desirable outcome because it shows that models can be incorporated and used in the inherently political process of policy making in a democracy” (King & Kraemer, 1993:7). Some think this is unfortunate and some think this is desirable. Under this thesis’s three operators proposal, both parties are correct. Models can provide the “correct answer” and this is the intellectual operator standpoint; models can also be “politicized” when introduced in applications and serve sides, a legitimate phase from the active operator standpoint. Both parties are correct and there is no unfortunate or desirable outcome; it is all normal process. Scientists do not know this approach or even when some know it, it is not thought of its applicability. This results in researching for several methods and/or techniques that can solve such problems of disputation.

For example, this is what Hanssen et al. do when state (2009: 43) that their insight “show that the use of a pacification strategy, in which science is expected to pacify stakeholders, is not an answer, as uncertainties are likely to remain high due to a different pacing of scientific progress and policy-making demands. [*And they propose*] “Instead, we propose a facilitation strategy in which stakeholders formulate shared ambitions and directions for solutions at an early stage” (Hanssen et al., 2009: 43). According to their findings, science is not an answer to the defined extent, facilitation -a new technique- is. This is what also, in another example, King and Kraemer (1993) designate broaching that “models can be incorporated and used in the inherently political process of policy making in a democracy”. Those are both astonishing statements. How extensively and accurately has it been shown, in the pacification case, that science is not an answer in expecting to pacify stakeholders, and how easily has it been concluded, in the models’ use case, that (1) policy making is a political process, (2) political process is inherited, a statement which implies unavoidability, and (3) part of the policy making context is the democracy, connoting the necessity of counting all opinions, anyway? Could we, without the least hesitation, claim that those leaps consist science? If, because of the political process in our under-criticized beloved democracy, we take as granted all opinions in a facilitating process, then why not to also count the experience and voice of a powerful stakeholder, who, in the proper context, would state “well, my experience is that the sun revolves around the earth and not the other way around? This is what my 50 years in life experience is, this is what honestly looks to me to be true, I want this considered”. Why is it suddenly wrong to keep up with the principle, “scientific inquiry guards against the errors of ordinary inquiry through careful and deliberate efforts” (Cengage, 2017: 5)?

While perusing Vennix’s “when confronted with a decision making task experienced scientists display the same biases and employ the same heuristics as lay persons” (Vennix, 1996: 142), the Hanssen et al. excerpt “it was generally and strongly felt that key government officials and politicians had too much room (“policy space”) to interpret research conclusions in line with their preferences” (Hanssen et al., 2009: 43), can be used to claim the same fact that is claimed for “government officials and politicians” also for scientists. I would confidently state that it generally and strongly feels that key scientists and researches take too much room -I would name it “authority space”- to interpret scientific conclusions in line with their preferences” and advance to “improvising”. Stated differently, what would be wrong if scientists tried harder to elicit solutions under the premise of the “correct answer” or under the property “scientific” -which is what this thesis proposes even if infantly- instead of proposing edifices of the “new era” adherent to the populist context of democracy and its politicization and to the mainstream public context by meeting politically correct standards?

The aporia hitherto is “if those operators are there and operate, and some scientists are aware of those, why nobody cares how do we state views, findings, and answers and whether we are on the same page -same operator- when we try to communicate and bridge differences or merge disputations?”

This thesis makes an attempt to this respect. Moreover, this fact -too much room to interpret scientific findings- allows space for other sort of explanations, subjectively developed. Above we witnessed Samuel Bois equating physical activity with observable activity, hence, the idea of the fourth ellipse, the ellipse X, which includes “the field of electrocardiograms, encephalograms, and electromyograms of anesthetics, insulin, vitamins, and hormones; of the lie detector, and of electroshocks”. Is physical activity only the observable activity? Let’s take the example of breathing; in the example of breathing, surely the diaphragm’s and the intercostal muscles’ contracting and relaxing function can be observed, hence, those muscles’ activities are physical; we can observe them, hence, they belong to ellipse A. What is the corresponding operator involved when the breathing center in the pons turns off the inspiratory center before the lungs get too full or when the second breathing center in the pons stimulates the inspiratory center to prolong inhaling when needed? Aren’t those physical activities? Can we observe those activities and their effect on the pons? We can and this tells us that it is the ellipse A -the kinetic operator- which is involved. However, with the histograms in their Figure 1, shown in my Figure 29, Mellen, Janczewski, Bocchiaro, and Feldman, (2003: 821) proved that although “current consensus holds that a single medullary network generates respiratory rhythm in mammals” (Mellen et al., 2003: 821), now it is “discovered that two systems in the brain interact to generate breathing rhythm -a finding that may translate into better treatment for sleep apnea and sudden infant death syndrome” (ScienceDaily, 2003). This discovery was due to histograms and here lies a disputation whether those activities belong to ellipse A or to ellipse X.



These breathing activities discovered functioning under the direction of two brain systems and should belong to Bois’s ellipse X because they are “mysterious activities that scientists discover and measure”. But Feldman is clear that “humans breathe no matter what. Yet breathing is an instinctual process” (ScienceDaily, 2003) and Samuel Bois classified all instinctual activities in the A ellipse, so those breathing activities shouldn’t be part of ellipse X; they should be part of ellipse A because ellipse A includes the “autonomous functioning of the organs and voluntary movements of the body”. Why this complication from one of the greatest fathers of this respect? Why so much room for interpretation of scientific results? That’s one of the reasons that led me to take the initiative stated above to “concede that I constrict Bois’s four ellipses down to three” (s: 30) and also to state that “scientists [...] are not aware of the effect of this operators’ mixture. If they were, they would define the way they determine their own inquiries [...] and claim things and findings, but they fail to explain so” (u: 35).

Similarly, McLaren's description of the head principle fails to address why "cool and silent" head will fulfill head's functions such as "to observe to direct and keep order". Likewise, McLaren also states that the feeling of anxiety disconnects our heart from working well and one aspect of heart's well work is "feeling for the others". Then how would the feeling of anxiety "for my child" disconnect my heart from working well since it already works "for the other", for my child? I mean, I detect that anxiety for my child is a "feeling for the other" and yet disconnects this very heart's work "feeling for the other". Why this complication and why so much room for interpretation? One more effect of this fact -that is, scientists fail to indicate from which one of their own three operators' standpoint they determine their findings- is the reason there is no evaluation or prioritization related to those operators; although some scientists know about them, no scientist has evaluated and/or prioritized them and, on aggregate, they think of them as equal or equally functioning. Proclaiming them tenders existence, attention and interaction but there is no dissection of their order and importance, if one exists. McLaren has offered the methodology to this respect and used it to define the importance of the existence of these operators and why one cannot make it alone. He asked the aporia "what if one only existed and the rest two were missing?" To dissect the operators' order and importance, I will follow the inverted of this very method, "what if one operator didn't exist" or "what if one exists but malfunctions?"

If one's kinetic operator doesn't respond and doesn't put in action what this person's intellectual operator cognizes or this person's emotional operator feel, then we may have to deal probably with a disable person; though, such person can still cope with society and face challenges; disable persons can still be thought of as parts of the society and participants. If one's emotional operator doesn't feel what this person's intellectual operator cognizes or this person's kinetic cerebral performs, then we have to deal probably with an "emotionless" or "senseless" person, with whatever properties would be attributed to such person, but such person can still cope with society and face challenges; for example, a military person might be strict, tough, emotionless, and even violent in everyday life, yet could be heroic and sacrifice the own life for another person in danger. But if a person's intellectual cerebral doesn't understand what the own emotional operator feels or the own kinetic operator performs, then we have probably to deal with an insane, a retarded, or incapable person and such person cannot cope with society and cannot face challenges whilst someone else is needed to take care of this person's affairs and welfare. This analysis tells us that although "all three are necessary" (McLaren, 2000: 3), there is a prioritization among the three operators. The intellectual operator comes out as chiefly needed, as well as more important.

At this point it is crucial to make a precious remark. We see that all three of the McLaren's principles engage a person with an objective "else", with another entity; it is the Leon McLaren's "feel for others" referring to the heart, but it is not valid only for the heart; indeed it is true for all three operators. By nature the three operators reach out to others and to other entities.

McLaren defines that the role of the heart cerebral is to be altruistic and work outwardly, toward others, but why only “feel for others” and not “perform for others” or “understand and think for others”? how one can just do one thing for others? how one can just “feel for others” but not “act for others” -in terms of helping in action- for example? What McLaren’s persistence direct us to enunciate is the way the cerebrals, in their best, interrelate with the environment and surroundings and, in contemporary terms, the direction that the cerebrals operate pellucidly at most when facing objectives. This is the way those principles operate when the man faces challenges. These are the ones directing the man from challenge to inquiry and this is why the inquiries form in three types of approach, the problematization, the analyzation, and the systematization type. This field that I just mentioned, “the way the cerebrals in their best interrelate with the environment and surroundings”, is a different level of the operators’ functioning capability and McLaren has not referred neither to this level of functioning, at which such event could take place, and its forces nor to the environmental interrelations which could develop while functioning at such level. My ad hoc hypothesis, to be researched and tested later by employing sociology and physics, is that “in an inward environment the operators perform outwardly and in an outward environment the operators perform inwardly”. At this moment, it would stray the scope of this thesis to explore this direction further.

However, all cerebrals reach out to an objective. Adler did state, phrase, and formed this in its greatest degree and, for the purpose of this thesis, in an amazing way, and meant it above any doubt (following underlines are mine): “Concerning cognitive processes, Adler (1973, pp. 42-43) emphasized the importance of the individual developing an empathic understanding of others. Also, social interest was viewed as essential to common sense. The feeling aspect of social interest is clear in Adler’s frequent references to a positive attitude toward others, concern for their welfare, and his discussion of true sympathy as the purest expression of social interest (Adler, 1959, p. 217). It is equally clear from Adler’s writings that overt behavior is the crucial test of a person’s social interest. The latter involves behavior directed toward contributing to the welfare of mankind (e.g., Adler, 1964, pp. 78-79)” (Crandall, 1975: 107) *(AN: underline marks initiated by the author)*.

Perfect, precise, pellucid. Cognitive empathic understanding of others, feeling a positive attitude toward others, behavior directed toward contributing to the welfare of mankind. It is all about an objective, not about “me”. The fact that “I understand” or I “feel” or “I act”, and the fact that all these functions emanate from “me”, doesn’t mean that these functions are all about “me”. Even when it happens these functions to be all about “me”, then “I” become the objective such as in cases of self-discipline. In such cases, people adopt the so called “self-discipline” stance, set personal attachments aside, obtain a distance from themselves and face themselves objectively in pursuing a disciplinary mode aiming to achieve certain attainments.

Being now in position to commend a descriptive term for each operator and being in position to emend the definitions of the three operators, I can enunciate that those operators are about the concept, the conception and the conceptualization.

That is, forming a concept for any challenging objective with the intellectual operator (concept), feeling or evaluating or coordinating or weighing the mentioned concept - when formed- with the feeling operator (conception), and proceed with a set or system in action with the active operator (conceptualization). This is a study from the intellectual operator standpoint. It is now correlatively coherent to sustain the desideratum one outward attribute for each operator perused in regards to the intellectual cerebral standpoint and, with the attribute “toward the others”, hence, in regards to its societal weight.

Although all properties attributed to the three cerebrals are vital requisites for any of the man’s activities, there is one property on each cerebral that sociologically prevails over all and, in essence, all of the rest properties of each operator amount to this; there is one attribute of each operator that practically outdoes the rest of the attributes and characterizes the specific operator at its function “toward the others”; this one property for each cerebral characterizes the cerebral, the seat, for each person and, based on this one, defines person’s sociological responsibility and hold individuals accountable for acting with the mentioned operator’s performance “toward the others”, like Wiebe indicates at (c: 6) above.

For the head, the seat of the intellectual cerebral, the outward attribution is “detection”; accompanied by “decipherment” and “direction”; detect, decipher, direct. It works like an antenna that captures and deciphers concepts, notions, and messages. The so often spoken mechanism of perceiving, and the “perceptions”, are part of the decipherment that happens here. Based on this operator persons are held accountable for their perceptions (*AN: v*). I would maintain the inclusive alias “administrating conceptual detector” for the intellectual operator with the note that those terms can also be used separately.

For the heart, the seat of the feeling cerebral, the outward attribution is “validation”; accompanied by “value” and “vitality”; validate, value, vitalize. It works like an evaluator that first conceives conceptions and weighs qualities and relations of those things captured in the head, then sanctions them, instills energy in them and drives them into existence making them worthwhile, valid. The often spoken mechanism of decision making, and the “decisions”, are part of the validation that happens here. Based on this operator, persons are seriously criticized and/or face crucial social consequences for the choices they make, the decisions they take, and how they value things toward others. I would maintain the inclusive alias “evaluating vitalic driver” for the feeling operator with the note that those terms can also be used separately.

For the belly, the seat of the kinetic cerebral, the outward attribution is “pursuit”, the enforcement of what the person has decided and valued; accompanied by “performance” and “praxis”; pursue, perform, practice. It works like a fabricator that corporealizes and implements in a tangible form the things that are evaluated, chosen, and energized in the heart. The so often spoken mechanism of intervening, and the “interventions”, are part of the events happening here.

Based on this operator persons get rewarded or punished for the actions they take or practices they conduct and even for the way they execute things toward others. I would maintain the inclusive alias “implementing pursual executor” for the kinetic operator with the note that those terms can also be used separately.

Now, at this point who would overlook or omit to mention Aristotle’s suggestion for “the disciplines of ‘theoria’, ‘praxis’ and ‘poiesis’ whose bases date back to Aristotle in relation to actions of ‘thinking’, ‘doing’ and ‘creating’ in terms of design disciplines” (Potur & Kayihan, 2011: 120)? Aristotle claims “that there were three basic activities of humans: theoria (thinking), poiesis (making), and praxis (doing). Corresponding to these activities were three types of knowledge: theoretical, the end goal being truth; poietical, the end goal being production; and practical, the end goal being action” (Wikipedia, 2017).

Aristotle distinguishes “making” from “doing”; that means, we cannot do without making first. Making is shaping. Shaping the validity of a concept -of a piece of knowledge- by sanctioning it and then vitalizing it. The end goal of this process, of making, is “production”, Aristotle suggests. “Production” in this case is not the “process of workers combining various material inputs and immaterial inputs (plans, know-how) in order to make something for consumption” but it means, “engender”, “procreate”, giving in something life and reality after it has been conceived, after it has become concept. Innovatively enough, Aristotle defines these concepts by their end, not by the abstract root of their origination.

Aristotle affiliates the theoria of knowing something -the intellectual operator of this thesis- with its ending point which is its true concept, the truth of its being; he affiliates the poiesis when sensing something -the feeling operator of this thesis- with its ending point which is its making, its production, its bearing into life; and he affiliates the praxis of performing something -the acting operator of this thesis- with its ending point which is its doing, taking action with it.

Aristotle’s perception, poiesis, and praxis could be conveyed to nowadays terms in the form of perceptual, poietical, and practical respectively.

In lieu of summarizing Chapter two, I will make a reference to two quotes particularly important for their pertinence to this Chapter’s two subject; those quotes are: (1) Wiebe’s quote of a role of the emotional systems (to sanction) and a role of the cognitive (to facilitate), above in (r: 28); under the scope of this analysis the understanding of Wiebe’s claims take a better position and understanding; (2) Ryckman’s quote of cognitions, motivations, and behaviors in various situations, above at (t: 31).

For the purpose of abstracting the notion of the operators and generalize them in a form useful for adoption in sectors and objectives of differentiated nature applications, yet to be comparable, it won’t be fallacious to sum in a sensu lato metaphor my own terms for those operators.

The intellectual operator captures a concept, an idea, a notion; it is the administrative element; it is the cognizance and the administrator, the stock of apprehension. The emotional evaluates the captured concept, interprets it, makes sense of it, compares it, sanctions it, values it, vitalizes it, instills life in it; it is the evaluative element; it is the sensor of being worthwhile, of motivation, and of moderation. The kinetic corporealizes, materializes the validated concept, concretes it, shapes it, takes actions with it in the world of the somas, of the stimuli, and of the senses; it is the function and the executor, the action imposer; it is the implementing element.

The intellectual by understanding will detect, define, and direct concepts, ideas, notions; the emotional by feeling will engage, evaluate, and entertain the meaning, the value, the quality of the concepts, ideas and notions; the kinetic by acting will connect, channel and construe the formed and validated concepts in movement, kinesis, performance norm.

The above sum of the three operators is illustrated in Table 7.

TABLE 7
My Own Sensu Lato Terms

Operators; Impulses; Ellipses		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
cognizance	sensation	function
Administrator	Evaluator	Implementor
Apprehension	Moderation	Action
stock	flow	range
capture	vitalize	corporealize
conceptualize	sanction	concrete
BRAIN	HEART	BELLY

Let's remind here the question of the first example of "ineffective thinking" at (k: 10): "How could a researcher relate this definition to a newer, this of Flamholtz (1983: 158), that is 'Culture consists in patterned ways of thinking, feeling and reacting' and which criterion could one use to identify the best definition, in terms of accuracy, effectiveness and efficiency, among the above two?" At this point the reader has the criterion to proceed with an answer to this question and decide which of the two definitions about culture would be accurate, effective and efficient, and why.

And with this we will start now to see whether all this structure, the tripartite human nature and the human operators, has affected man's behaviors in terms of makes and especially management and organizational intervention.

Chapter Three: the Pervasion of the human's nature

In this chapter it is investigated the evidence in people's work, especially in management research, from the operators' existence and function while people are unaware of them. This is the pervasion of the three operators in our activities.

If the model Administrator-Evaluator-Implementor Operators (AEIO) governs individuals' perceptions and thereof attitudes, approaches and actions, then we should have some evidence of this impact in people's affairs, people's exchanges, people's interests, and people's operations. I maintain that if those operators govern human inquiry and people's behaviors, then people's actions, makes, and notions should be pervaded by those and there we should be able to realize such pervasion around us, especially -for the sake of this thesis- in management and organizational control. This is true. Such realizations exist and here are some examples.

1. Bianchi's "DPM"; "dynamic performance management".

First, the great to my knowledge, Bianchi's Dynamic Performance Management, the DPM. In regards to performance management (PM) Bianchi, Marinković, and Cosenz define that "a 'dynamic' perspective in designing and implementing PM systems implies the identification and analysis of end-results, value drivers and related strategic resources" (Bianchi, Marinković, & Cosenz, 2013: 2). Bianchi et al. designed the Figure 2 (Bianchi et al., 2013: 10) of the PM system consisted of three components, end-results, value drivers, and strategic resources. Illustrated in Figure 30 are these three DPM components and the primary order of them.

FIGURE 30
DPM Components:
Strategic Resources, Performance Drivers, & End Results

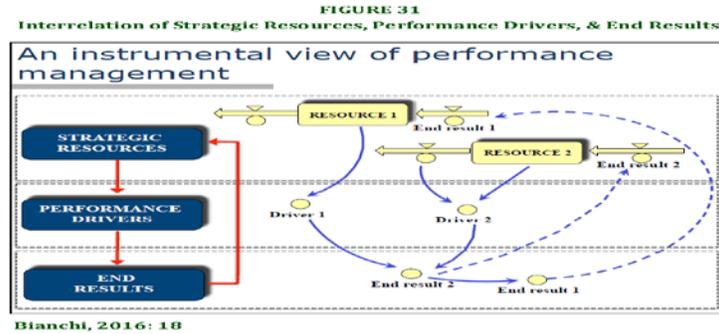


Fig. 2 – A dynamic view of performance management (Bianchi, 2010, 2012).
Bianchi, Marinković, & Cosenz, 2013: 2

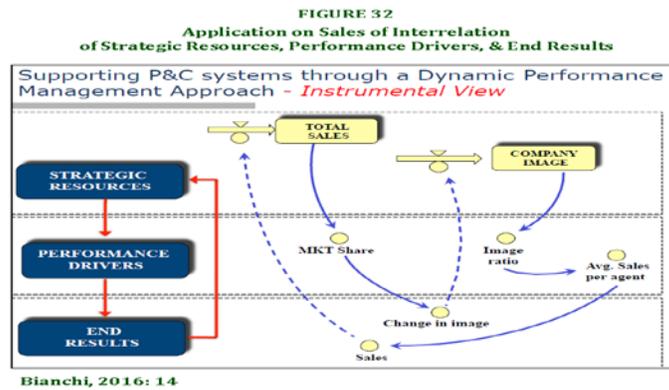
About resources Bianchi explains that "resources are intended as 'stocks of available factors that are owned or controlled by the firm'" (Bianchi, 1999: 2,3) and "resources are related to know-how that can be traded, [. . .] financial or physical assets, [. . .] [and] human capital" (Bianchi, 1999: 3); also "if we adopt a broader concept of *resource*, related to 'anything which could be thought of as strength or weaknesses of a given firm [. . .]' also strategic soft variables such as competencies, business image, entrepreneurial personal contacts and values, corporate culture, etc. can be considered -latu sensu- as resources" (Bianchi, 1999: 4). As main strategic resources examples are stated "stocks: (1) Contacts, (2) Staff [. . .], (3) Liquidity, (4) (Average or perceived) Time to increase contacts, and Perceived Image" (Bianchi et al., 2013: 13), as well "stocks of Proposals and Proposals quality [. . .] and stocks of Projects, Liquidity, Total Staff, Skills and Time to create project [. . .]" (Bianchi et al., 2013: 14).

About performance drivers Bianchi et al. refer to three different types of drivers and explains that “*competitive* performance drivers [. . .] can be measured [. . .] as a ratio between the organizational performance perceived by customers and a benchmark - or a target value. Such a denominator must be gauged in relation to perceived past performance, customers’ expectations, or even [. . .] competitors’ performance”; “*social* performance drivers can be measured in terms of ratios between organizational strategic assets and a target, which can mostly be expressed in terms of either stakeholder’s expectations or perceived past organizational performance. For instance, a social performance driver could be referred to the ratio between the actual and planned number of perceived undertaken social responsibility initiatives”; “*financial* performance drivers also must be measured in relative terms. [. . .]. Such driver is the ratio between two stocks. For instance, the employee’s time per unit of workload is an expression of the ratio between two stocks -employees (unit of measure: people) and workload (unit of measure: widgets per week), multiplied by a constant (working hours per people per week)” (Bianchi et al., 2013: 11) (*AN: w*). As main examples of performance drivers it is stated that “ratios were designed as correlated performance drivers: (1) ‘Number of contacts/Target number of contacts’, (2) ‘Number of commercial staff/Total staff’, (3) ‘Time allocated to increase contacts/Target time to increase contacts’, and (4) Relative image (i.e. ‘company image/desired or target image)’” (Bianchi et al., 2013: 13). About end-results Bianchi et al. claim that “in the long run, SMEs [*Small-Medium Enterprises*] survival on the market basically depends on the results that they are able to achieve (Bianchi et al., 2013: 1), and that “ ‘results’ [are] (i.e., outputs and outcomes) to pursue” (Bianchi et al., 2013: 2). “End-results are modeled as in- or out-flows, which over a given time span change the corresponding stocks of the corresponding strategic resources” (Bianchi et al., 2013: 10) and that “the flows affecting such resources are measured over a time lag” (Bianchi et al., 2013: 10). As main end-results examples it is stated that “end-results are: ‘Change in Image’, ‘New views’, and ‘Cash flow’ ” (Bianchi et al., 2013: 14). How are those three DPM components, defined above, interrelated? “Each performance dimension includes a set of strategic resources whose acquisition and deployment in a synergetic way implies the possibility to generate certain results” (Bianchi et al., 2013: 6). Each performance includes a tri-part set: resources, synergetic way, and results. Obviously the synergetic way (the combined interaction of two or more agents or forces) refers to the ratios, the comparisons between two stocks; that is a value, a sensation of the two stocks’ relations that will sanction the two stocks and their relation to one degree or another, according to Table 7. Specifically, Bianchi et al. imply that we should be able to understand “-How strategic resource accumulation and depletion processes are triggered by the use of different policy levers affect performance drivers; -How performance drivers affect outcome indicators; -How outcomes will affect strategic-asset accumulation and depletion processes” (Bianchi et al., 2013: 9). And they continue, “to use a metaphor, while the end-results represent the speed of an organization’s performance, the performance drivers represent the acceleration of performance. On the other end, strategic resources can metaphorically be depicted as the forces upon which decision-makers act, in order to affect the acceleration rate, and through it, the speed at which an organization is traveling” (Bianchi et al., 2013: 11).

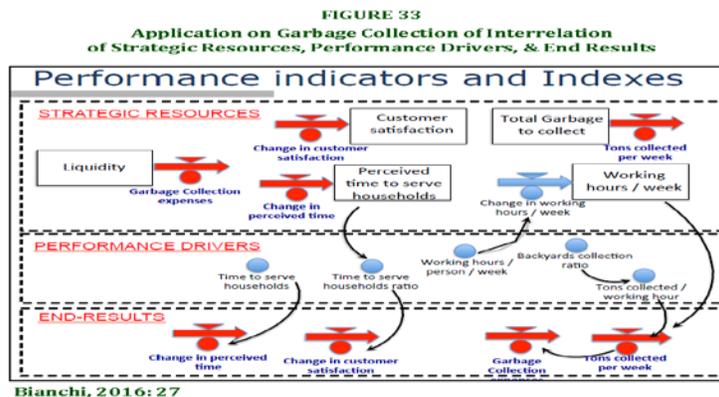
This is so well formed: the force, the speed (i.e. how fast the force’s impact changes in time), and how fast that speed is reached (the acceleration); this is the essence of this tri-part application in management and it is illustrated in Figure 31 (Bianchi, 2016: 18).



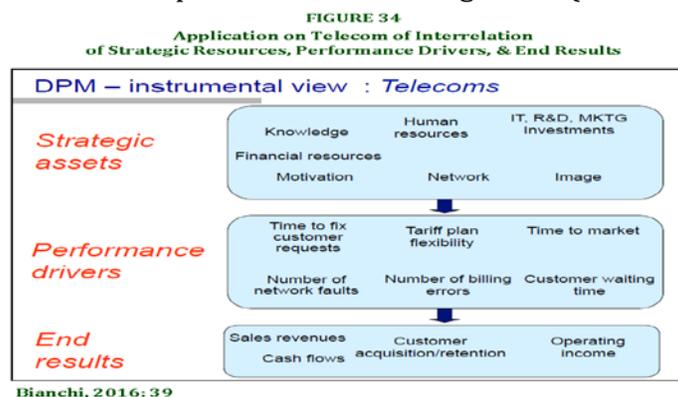
The specific example of how such a design could be applied in sales is illustrated in Figure 32 (Bianchi, 2016: 14).



In elaborating understanding by demonstrating specialized terms, the example of a garbage collection enterprise is illustrated in Figure 33 (Bianchi, 2016: 27), and



the example of a telecom enterprise, illustrated in Figure 34 (Bianchi, 2016: 39).



What is the gist of the DPM model in regards to the AEIO tripartite model proposed in this thesis? Strategic resources are painted as the source of force, a stock of strategic important assets of a firm or organization; performance drivers are painted as the comparison, a ratio between two measurements, between two stocks, that will lead to a sense of moderation, to a value, to a unitless number (that is a ratio) that will make sense to one or another degree and lead to an evaluation, to a motivation, to a decision; and end-results are painted as the actions taken in time, that is a quantity of events occurred per time unit, therefore as flows. I think this is a very accurate portrait of the AEIO tripartite model, which I have introduced in this thesis and are illustrated in sum in Table 7. The names alone of those three components draw an idea about their identification and role: end-results is the corporealizing component that refers to a result at the materialized end of performance (hence, it typifies the executor operator), value drivers is the component that values and drives the performance (hence, it typifies the evaluator operator), and strategic resources is the component of available sources and stocks available to an intended objective of performance before any use or evaluation (hence, it typifies the source of means, the cognizant operator). The attestation is that Bianchi has devised a model, an instrument, and by working hard for long in thinking, testing, and tracking its applications in management has ended up with this proposal. The question I would raise is, how come this is so accurate in portraying the AEIO model of the human nature? The answer generated in this thesis is that the operators govern our problematization, analyzation, and systematization inquiries and therefore they pervade our makes, knowing it or not. This is innate in our nature and we think in this pattern naturally with no doubt. Bianchi's work appeals greatly in portraying the model of the three AEIO operators. The terms used in DPM, their order as presented, the effect of one term to another, and the details and applications in management depict precisely what I want to present in this thesis about the nature of the three operators and their interrelation; I feel, there couldn't be a better example. Bianchi's DPM related to the AEIO model is illustrated in Table 8. In this I took a sensu lato liberty to simplify and rename the "strategic resources-performance drivers-end results" set of terms to "resources-drivers-results (RDR)".

TABLE 8
Bianchi's DPM Related to the AEIO model
RDR vs. AEIO

Operators; Ellipses; Principles		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
Resources	Drivers	Results
force	acceleration	speed
stocks	decisions	flows
assets	ratios	runs
BRAIN	HEART	BELLY
AEIO: Administrator-Evaluator-Implementor Operators		
RDR: Resources-Drivers-Results		

2. Campbell's "one team's journey".

Campbell claims "a journey is a good analogy for a system dynamics project" (Campbell, 2001: 196) because "the most well-known [AN: last ten years USA executive team-building programs] are wilderness journeys, which consist of leaving a group of people in the middle of nowhere with a few critical pieces of equipment and a sketchy map, and letting them find their way through the wilderness back to civilization.

By being lost together; fighting over alternate routes to get back; becoming lost again; suffering scraped elbows and knees, or worse; and finally becoming interdependent and successfully making their way out, the team experiences loss, confusion, conflict, hardship, discovery, and success together. The strength of the relationships created on such a journey is renowned” (Campbell, 2001: 195). Thereby, Campbell states “in using the journey analogy I define four legs of a journey:

1. Planning the journey
2. Mapping the terrain
3. Traversing the terrain
4. Returning home” (Campbell, 2001: 196).

Campbell further defines these legs of a journey; “in Planning the journey we decide where we want to go and why”; “in Mapping the terrain we develop a map, a diagram of what we know about the problem and its causes, or about the terrain”; “in Traversing the terrain we actually go there and get our shoes dirty”; “in Returning home we bring back the learning that took place” (Campbell, 2001: 196). If we set apart the fourth leg, that is a learning -a stock of memory with the benefits of such journey, what we witness here is that the rest three legs depict the AEIO model. Planning is “want what”, mapping is “problem causes”, and traversing is “actual get”. The ensuing inference is that in Campbell’s use of these different terms, planning is “detecting” as defined at (v: 42) above, mapping is “developing”, and traversing is “doing”. What is the gist of the Campbell’s notion and proposal in regards to the tripartite AEIO model of operators proposed in this thesis? Planning is painted as source of answers; mapping is painted as the evaluation of those answers in planning and the development of the journey’s details; traversing is painted as the actual journey. I think Campbell’s set of legs for a project journey is an accurate portrait of the AEIO tripartite model of operators I have introduced in this thesis and are illustrated in sum in Table 7 and portrays the administrative (planning) function for the journey, the evaluative (mapping) function for the journey, and the performing (traversing) function for the journey. Specifically, the term planning broaches precisely what the administrator operator does. The term mapping, which interprets to figuring out the valid ways -evaluating- also broaches accurately what the evaluative operator does. There is no need to also elaborate on the term “traversing”, the actuality of the journey. These Campbell’s terms are useful and are recorded in illustrating Table 9.

TABLE 9
Campbell’s Journey Legs Related to the AEIO model

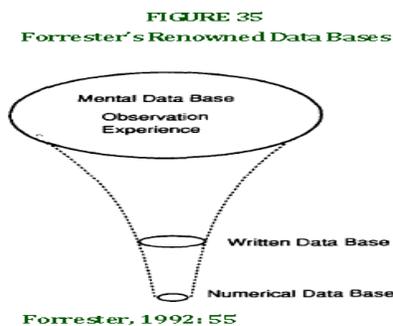
Operators; Ellipses; Principles		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
Planning	Mapping	Traversing
want, why	problem, causes	actual get
detecting	developing	doing
BRAIN	HEART	BELLY
AEIO: Administrator-Evaluator-Implementor Operators		

The attestation is that Campbell has captured this notion and by using it to elaborate on some hardships in managing SyDy projects has ended up with this proposal.

The question I would raise is, how come this portrays accurately the AEIO model of operators? The answer generated in this thesis is that the operators govern our problematization, analyzation, and systematization inquiries and therefore they pervade our makes, knowing it or not. This is innate in our nature and we think in this pattern naturally with no doubts.

3. Forrester's "policies, decisions and information sources".

With the renowned funnel-figure Forrester "suggests three kinds of data bases [*AN: for modeling*]: mental, written and numerical" (Forrester, 1992: 56) illustrated in Figure 35 (Forrester, 1992: 55).



Forrester explains that mental data is "data stored mentally in people's heads" (Forrester, 1992: 55,56). Written data is "data stored descriptively in writing" and explains further that "part of the written store of information is simply a recording of information from the mental store" and "part [. . .] contains concepts and abstractions that interpret other information sources". Further elaborates that "decisions are fleeting [. . .]. As a consequence of the fleeting life of a decision, it is primarily the literature of the present in which decisions are discussed [. . .]. The ever-advancing present moment in decision making is the businessman's and politician's world of action [. . .]. These actions are continuously modulated by changes that occur in system states such as backlogs, inventories, plant capacity, debt, liquidity, and number of employees [. . .]. In its totality, the written record is an excellent source of information about system structure and the reasons for decisions" (Forrester, 1992: 56); Last, "one must read between the lines and round out each picture with information from other times and places". Numerical data is "data available numerically" and explains further that "missing from numerical data is direct evidence of the structure and policies that created the data" (Forrester, 1992: 56). What is the gist of the Forrester's databases model in regards to the tripartite AEIO model proposed in this thesis? Mental data are painted as source of information, system structure, and states of stocks such as backlogs, inventories, capacity, debt, liquidity, staff as well as information from other times and places. Written data is painted as the interpretation of information, as the discussions in decision-making, as the modulation of changes that happen in stocks (backlogs, inventories, capacity, debt, liquidity, and staff) and as the information about system structure and reasons. Numerical data is painted as the world of concrete measurements. About the written data Forrester clarifies that "the written record has two major shortcomings compared with the mental data from which the written data were taken. As a first weakness, the written record usually cannot be queried. Unlike the mental data base, the written record is not responsive to probing by the analyst in search of a fit between structure, policy, and behavior" (Forrester, 1992: 57).

About the numerical Forrester also clarifies that “missing from numerical data is direct evidence of the structure and policies that created the data. Numerical data do not reveal the cause-to-effect direction between variables. From numerical data one can make statistical analyses to determine which data series correlate with one another, but that leaves unanswered the question of internal causality” (Forrester, 1992: 57,58). Therefore, from the elaboration on written data we infer that analyzing is not querying or probing; from the elaboration on numerical data we infer that analyzing is revealing the cause-to-effect direction, is revealing the causal context, how the variables are related; hence, analyzing is evaluating the data relations and that is qualification. Also, we infer that from the two dimensions of evidence that are missing from numerical data, the evidence of the structure is in the sector of the mental data and the evidence of the policies (decisions) is in the sector of the written data whereas the evidence from the sector of numerical data, from measurements and numbers, is statistics, and by recording stats determine why data develop this or the other way (that is correlations, not relations); this is quantification. Thus, all the information and perceptions are in the mental data, and from here are taken to the written data where the discussions and interpretations for decisions (the motivation for choices) are held whilst numerical data is the field of measurements and numbers that verify the outcome of the decisions taken in the preceding level of the written data. I think Forrester’s model of data sources for modeling is an accurate portrait of the AEIO tripartite model of operators I have introduced in this thesis, and are illustrated in sum in Table 7, and portrays the administrative (information mental) data source, the evaluative (interpretations written) data source, and the active (illustrations numerical) data source. The question I would raise is, how come this is so accurate in portraying the AEIO operators’ model? The answer generated in this thesis is that the operators govern our problematization, analyzation, and systematization inquiries and therefore they pervade our makes, knowing it or not. Hence, Table 10 illustrates what is attested at Forrester’s proposal.

TABLE 10
Forrester’s Data Bases Related to the AEIO model

Operators; Ellipses; Principles		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
mental	written	numerical
probing	analyzing	recording
queried	qualified	quantified
what	how	why
Informative	Interpreted	Illustrated
structures	decisions	statistics
states	relations	correlations
BRAIN	HEART	BELLY
AEIO: Administrator-Evaluator-Implementor Operators		

4. Schein’s “process consultation”.

Schein deciphers three types of clients, all involved in a project of systemic approach; he states that “in fact, the systemic approach requires one to think simultaneously in terms of three clients: immediate or contact clients with whom one is interacting in the here and now; primary clients, who are the real targets of change, and who pay for the change efforts; and ultimate clients, who are the stakeholders that must be considered even though one might not ever interact with them directly” (Schein, 1990: 57). What is the gist of Schein’s decipherment about clients in regards to the tripartite AEIO operators’ model proposed in this thesis?

The immediate or contact clients “with whom one is interacting in the here and now” is the type of persons with whom one would discuss, the issues, the insights, and the available information. As indicated already earlier, discussion involves tracking relations, proposing combinations, exploring options, and so on, with the purpose to take decisions; this is the “making sense” function and therefore it paints the image of the “feeling” cerebral, the evaluator. The primary clients “who are the real targets of change” are the ones who would make the change and therefore the ones that make action the decisions taken at the level of the immediate and contact clients and execute the change. This paints the image of the “acting” cerebral, the implementor. Last, the ultimate clients, who “must be considered” no matter if ever interacting with them directly, are the invisible entities that sooner or later affect or get affected by the decisions taken along with the immediate or contact clients, hence, one day might come forward raising issues and therefore should be considered anyway. How do they get considered? By taking in account the issues we know they might think of or what concepts, challenges, or claims they might raise at any future moment. This paints the image of the “thinking” cerebral, the administrative, who sets the framework, the boundaries, and pilots the discussions with the immediate or contact, although “invisible”, so to speak, clients. I think Schein’s types of clients, which one needs to take in consideration at one systemic approach alone, accurately portrait the AEIO tripartite model of operators I have introduced in this thesis and are illustrated in sum in Table 7 and portray the administrating (ultimate, stakeholders) type of clients, the evaluating (immediate, contact) type of clients, and the change executing (primary, real) type of clients. Hence, Table 11 illustrating what is attested at Schein’s decipherment.

TABLE 11
Schein’s Types of Clients Related to the AEIO model

Operators; Ellipses; Principles		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
ultimate	immediate	primary
invisible	contact	target
considered	discussed	changed
Piloting	Interacting	Paying
BRAIN	HEART	BELLY
AEIO: Administrator-Evaluator-Implementor Operators		

Schein in a simple excerpt while developing up his claims states “I have three points that I wish to develop. -Helping is a general human process that applies to parents, friends, teachers, and managers, not just to consultants or therapists whose central role is to help. -Helpers make choice based on key assumptions that have to be examined continuously during the helping process. These choices are primarily online, real-time decisions about when to be in the role of expert, doctor, or process consultant. I will explore the contrast among these roles in some detail below. -A central concern of consultants should be to improve the ability of clients themselves, especially managers, to become more helpful to superiors, subordinates, peers, customers, suppliers, and other stakeholders” (Schein, 1990: 57). Aggregating the above excerpt one can witness three levels in this Schein’s statement about helping; those are, (1) entities of application while helping (parents, friends, teachers, and managers, not just to consultants or therapists), (2) making choices by examining assumptions while helping, and (3) improving clients while helping.

I think the way those levels are formed portray accurately the AEIO tripartite model of operators I have introduced in this thesis and are illustrated in sum in Table 7. The reference to “whom helping may concern” paints the level of the “acting” level of operators because it determines what part of the material world helping targets. The reference to “making of helping” -a reminder of Aristotle’s classification of human activities above, that is choices, and the way of doing this, that is examining (or evaluating) assumptions, paints the level of the “evaluating” level of operators. Last, the reference to what happens in the invisible world of ideas and concepts while helping, that is improving clients themselves, paints clearly the world of mind and that is the level of the “head” cerebral among all operators’ cerebrals. This could make up the short illustration in Table 12.

TABLE 12
Schein’s Helping Levels Related to the AEIO model

Operators; Ellipses; Principles		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
Improving	Examining	Applying
BRAIN	HEART	BELLY
AEIO: Administrator-Evaluator-Implementor Operators		

Schein also wrote “about the three models of consultation”. Elaborating the three models, Schein states them as the expert, the doctor, and the process consultant. The expert “has the needed information”, the client “knows what the problem is” and “the client has communicated the real problem”. This is the example when “a subordinate asks the boss: ‘How do I deal with this problem employee in my group?’ and the boss tells her how. A child asks a parent: ‘How do I do this math problem on my homework?’ and the parent shows him how to do it” (Schein, 1990: 59). “It may be that the subordinate or child is learning how to be dependent on the boss or parent at a time when it is more important that they learn to dig out the information themselves” (Schein, 1990: 59). The second model of consultant, the doctor, will “investigate, interview, psychologically assess, run tests, make a diagnosis, and suggest a cure” (Schein, 1990: 60). This is the example when a “subordinate goes to the boss with a broad request for diagnostic help in dealing with problem people; or the child comes to the parent with the lament that he can’t ever do the math and doesn’t know what’s wrong” (Schein, 1990: 60). When a client visits the doctor type consultant wants the doctor “to investigate what’s wrong” “and suggest a cure” (Schein, 1990: 60). The third model of consultant, the process consultant creates “a situation in which clients continue to own their own problems; the consultant becomes a partner or a helper in diagnosing and dealing with those problems. But they will never be the consultant’s problems” (Schein, 1990: 61). “Clients, whether managers, subordinates, children, or friends, often seek help when they do not know exactly what their problems are. They know something is wrong but the help they really need is in figuring out exactly what that is” (Schein, 1990: 60). “Clients do not know what kinds of help are available and what kinds of help are relevant” (Schein, 1990: 60). “Once that question has been answered, they can often figure out their own solution”. “Helpers must help their clients to learn how to learn” (Schein, 1990: 60). “Clients would benefit from participation in the diagnosing process -particularly since they are so often part of the problem and need to be led to this insight” (Schein, 1990: 60).

What is the gist of Schein's concepts of three types of consultants in regards to the tripartite AEIO operators' model proposed in this thesis? In the expert type consultation, the expert "knows it all", the expert has the needed answers and leads the way while the owner of the problem, that is the client, is aware of the problem and demonstrates the issue per se to the expert; the client subordinates to the expert or, better, the client relies on the expert; both work on a particular problem. With the doctor type of consultation, the doctor discusses, assess, and evaluates the situation as the owner of the problem, the client, demonstrates the issue; both work on a range, an area, of possible choices out of which the doctor will issue a diagnosis and its cure, a remedy. With the process type of consultation, nobody knows the problem nor the solution and the process consultant just makes available the method and recommendations so the client can understand the problem and also find the solution pragmatically as things develop, unravel, and go. I think the way those types are formed portray accurately the AEIO tripartite model of operators I have introduced in this thesis and are illustrated in sum in Table 7. The first type of consultant apparently owns the concept and all information needed, hence, it paints the type of "conceptual" operator. The second type of consultant evaluates data, information, rendered and comes forward with a choice, a remedy, so this type paints the "evaluating" operator. The third type of consultant knows nothing but the method and lets things develop as they erupt at the moment of actuality in the material world. This could make up the illustration of the Table 13.

TABLE 13
Schein's Consultants Types Related to the AEIO model

Operators; Ellipses; Principles		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
expert	doctor	processor
problem at issue	range of choices	method in process
Reliance	Remedy	Recommendation
subordination	involvement	participation
BRAIN	HEART	BELLY
AEIO: Administrator-Evaluator-Implementor Operators		

The question I would raise is, how come in all three cases of Schein's study there is such accuracy in portraying the AEIO operators' model? The answer generated in this thesis is that the operators govern our problematization, analyzation, and systematization inquiries and therefore they pervade our makes, knowing it or not.

5. Ouchi's socialization processes.

Another example of AEIO model of thinking among scientists of management is the Ouchi's definitions of profession, clan, and culture given at (h: 8) above. In Ouchi's definitions it is obvious that: (1) culture sets values/beliefs and leads lives; (2) clan requires "agreement on a broad range of [AN: the set of] values and beliefs" (Ouchi, 1979: 838); (3) profession is the action taken by individuals exercised according to the values and beliefs set by the culture and agreed by the clan, any clan the professional has teamed up with.

In Ouchi's definitions is obvious that the culture is the component that carries those concepts that govern people's lives while the clan is where an agreement is required, agreement that is the product of discussions, everyday frictions, assessments, interpretations, and so on. Hence, the culture corresponds to the thinking operator, the clan corresponds to the evaluator, and the profession with the actions taken at it, including the burdens that happen here, corresponds to the implementing operator.

The question remains, how come also in Ouchi's case there is such accuracy in portraying the AEIO operators' model? How come in all cases of the presented examples there is such accuracy in portraying the AEIO operators' model although the scientists didn't cooperate in anyway in regards to AEIO model, they didn't know it, and even more they come from all type of different backgrounds? The answer generated in this thesis is that the operators govern our problematization, analyzation, and systematization inquiries and therefore they pervade our makes, knowing it or not.

Beyond the indicatively given above examples, there are many more examples meant to be given in a future work with a greater use of space. However, I hope that by now it is obvious that the AEIO model applies to systems and organizations, only. It applies only to entities that need to be managed one way or another and from which management we obtain results and outcomes. In this meaning the notion of goal is contained. To this extend a traveling bus, although a product, is also an organization - or system- and the AEIO model applies to it as well. A social theory is also a system for the same reasons. But a book is not, and a mathematical theory is not either.

Chapter Four: the Modeling of the human's nature

The thesis of this thesis is in its infancy. Modeling is even in a lighter and smaller stage. With the realization that the thesis of this thesis would need further elaboration, here are presented a few models only to shyly approach some of the aggregate chief steps toward the operation of the tripartite operators in the human.

The first chief subject, and step, is the concepts forming from stimuli reception and their categorization per Turner (1996: 19) as it is presented in an earlier stage above. Conception of stimuli depends on the five senses organs and their distance from them in relation to the immediateness of access to memory. It also depends on the degree of accessibility that the environment allows and the distraction involved from surroundings. It all amounts to reception's accuracy and the conception's validity. Categorization as stated by Turner happens, however, it takes a comparison before the concept takes a place. An initial view of the dynamics of conception is illustrated in Figure 36 modeled, and in Figure 37 simulated.

FIGURE 36
Concepts Forming from Stimuli Reception
and their Categorization Model

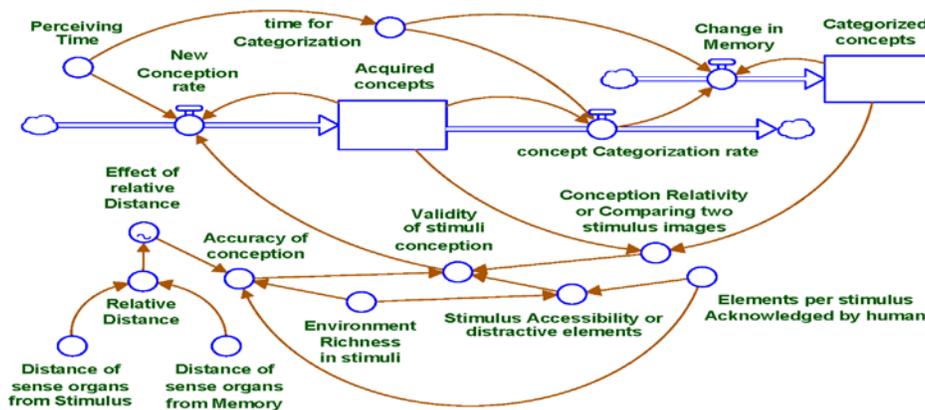
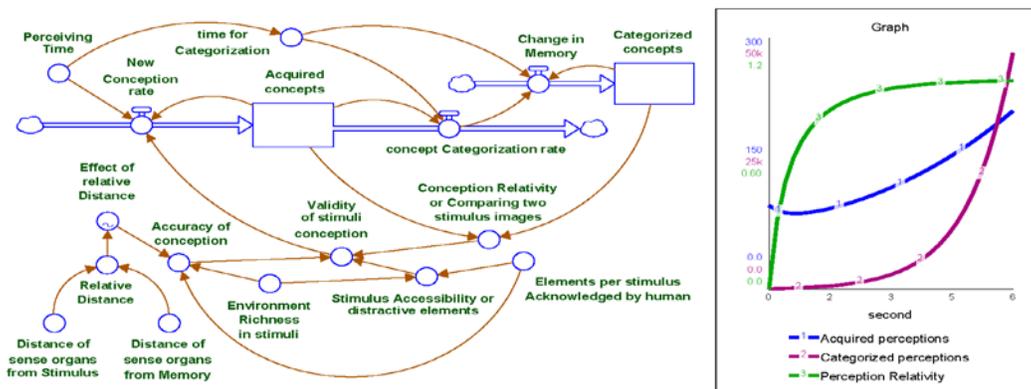
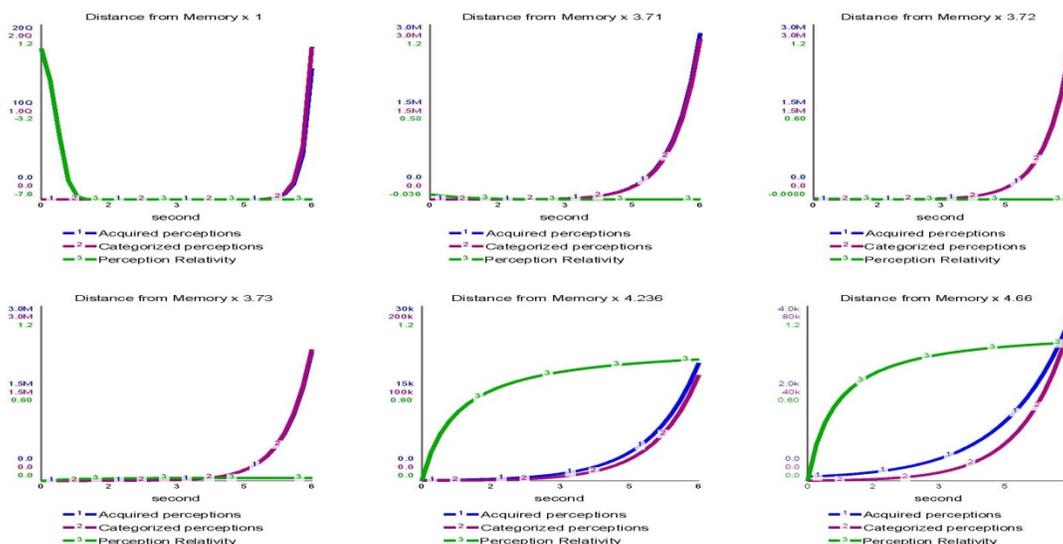


FIGURE 37
Concepts Forming from Stimuli Reception
and their Categorization Simulated



Dynamics and things change when the distance from stimulus changes. A few cases where the distance from the stimulus is a multiple of the distance from memory are illustrated in Figure 38.

FIGURE 38
 Concepts Forming from Stimuli Reception and Distance from the Stimulus is times the Distance from Memory



Not that this is a complete or the best model of this case but it demonstrates clearly that distance from stimuli is a factor in forming either con-ceptions or per-ceptions, a distinction that thanks to SyDy modeling can help understanding the practical difference between the two. Con-cepts and con-ceptions, from “con”, which means “in opposition or disagreement; against” (The free dictionary, 2017), and from “cept”, the Latin root word that means “taken” (Membean, 2017), are notions formed “against the taken”, meaning “as a hedge of the real”, that is “in lieu of the real thing”; this is close to the Greek term “αντίληψη”, which comes from “αντι-ληψη” where “αντι” means “as an alternative of”, “instead of”, and “ληψη” means “receipt of”, “reception”, and “download”. Hence, concepts are formations representing the real stimuli, as an alternative of the real stimuli; in this case the stimuli lies in distance. On the other hand, per-cepts and per-ceptions, from “per”, which means “for”, “according to”, “by means of” and “through” (The free dictionary, 2017), and from the known “cept”, are notions formed “for, by, through the real thing”; this is close to the Greek term “κατάληψη” and “καταλαβαίνω”, which comes from “κατα-ληψη” where “κατα” means “about”, “along”, “by”, “throughout”, “like” and the known “ληψη”. Hence, percepts are formations made throughout the actual stimuli, and therefore, in touch with them; in this case the stimuli lies in mind, not in distance. Having referred slightly to the formation of concepts, next, as a second chief subject, and step, is the learning from the stimuli reception, concepts formed, and their categorization per Turner. In learning the own conception leans to reach to desired perception through perusal, wonder and work. Aggregately, learning is primarily affected from parental concepts, then from social standards; those are demonstrated as a graphical function which depicts them as having a high impact at the beginning, then a low one in an “overlooked” mode, and finally an even higher impact in a “considered” mode. There is an initial perception, which counts as a personal stance, no matter what it is. Finally there is a gap, which is a wonder that motivates the human to learn. Such an initial view of the dynamics of thinking forming concepts in regards to perceptions, as both defined in the previous section, affected by parental and social standards is illustrated in Figure 39 modeled, and in Figure 40 simulated.

FIGURE 39
Thinking Developing Concepts Related to Perceptions and Affected by Parental and Social Standards Model

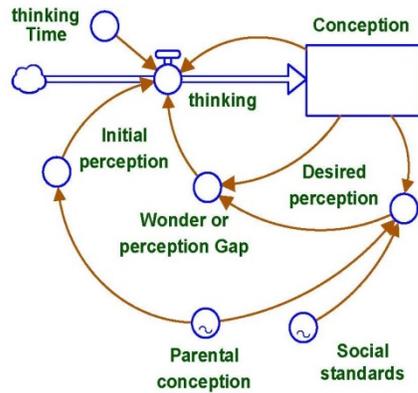
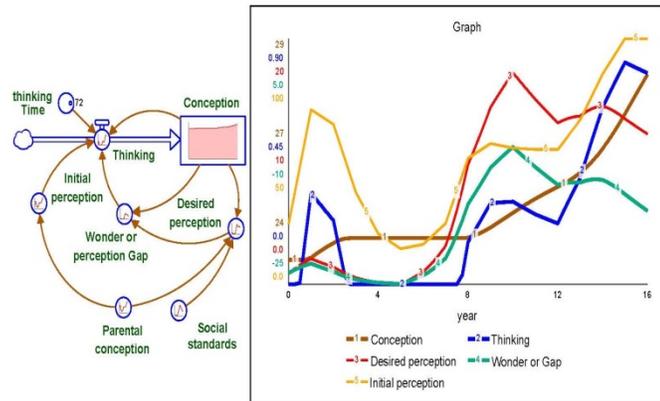
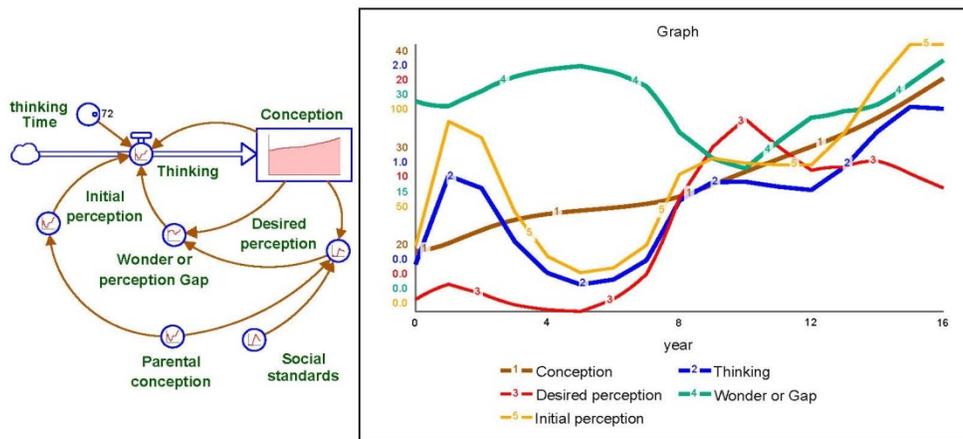


FIGURE 40
Thinking Developing Concepts Related to Perceptions and Affected by Parental and Social Standards Simulated



Teaching or getting involving in any sort of dissemination follows learning and this should be considered as the next chief subject, and step, from the stimuli reception, concepts formed, and their categorization per Turner. In teaching or getting involved to disseminate learnt concepts, the own conception is the target and the desired perception through perusal, wonder and work leans to owned conception. Such an initial view of the dynamics of thinking forming concepts in regards to perceptions, as both defined in the previous section, affected by parental and social standards is illustrated in Figure 41 simulated.

FIGURE 41
Thinking Developing Concepts Related to Perceptions at Teaching Simulated



Having learning and teaching presented, last chief subject, and step, is the evaluation of a set of concepts the administrator operator on a certain issue, as they get evaluated from the evaluator operator. Not all concepts can be evaluated at a given time. Concepts been evaluated would affect concepts that are yet to be weighed and evaluated, which if were evaluated earlier would be needing reconsideration. Not all evaluated concepts are sanctioned. It all depends on the evaluation process (which is to be modeled at a later time) and the effect of the evaluation results on the concepts under evaluation. This initial view of the dynamics of the relation between administrator and evaluator operators is illustrated in Figure 42 modeled, and in Figure 43 simulated.

FIGURE 42
Initial View of the Dynamics of the Administrator and Evaluator operators

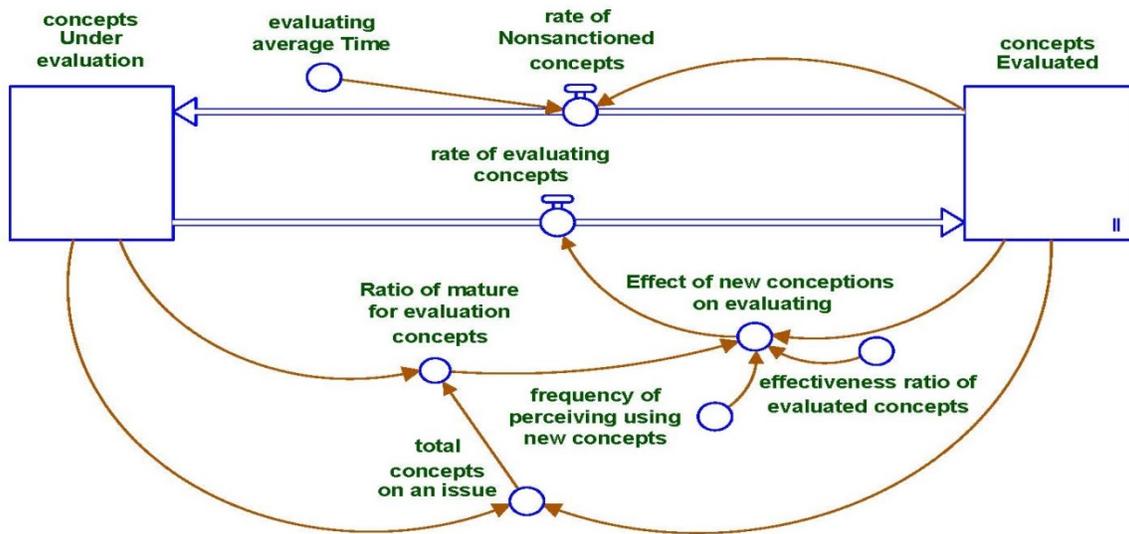
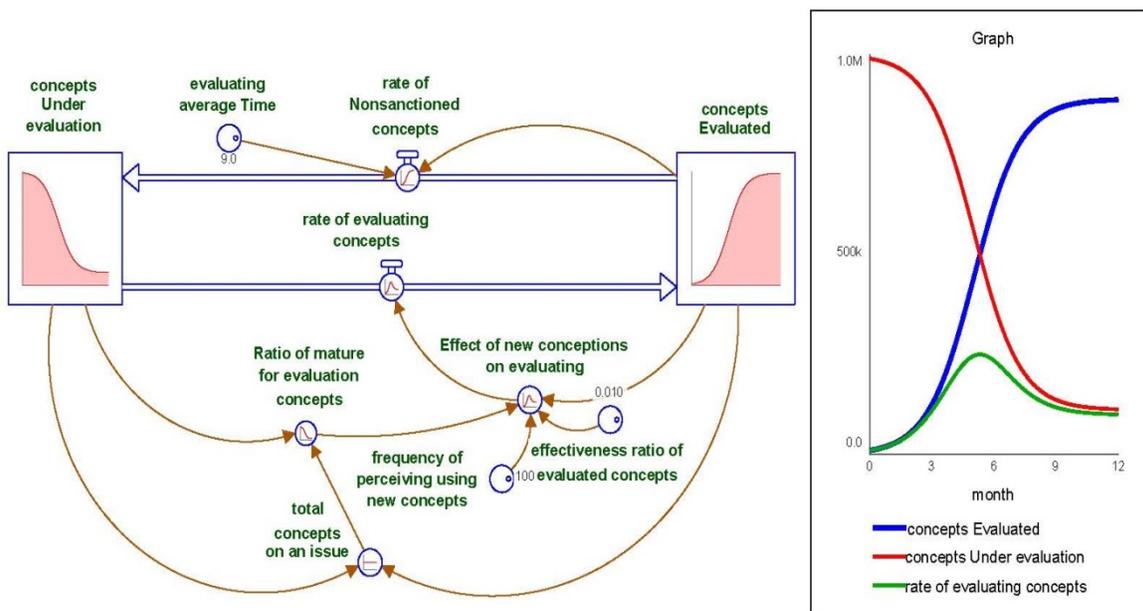


FIGURE 43
Initial Simulation of the Dynamics of the Administrator and Evaluator Operators



This last case is an initial and indicative example between just two of the operators. Something analogous could be applied for the relation between evaluator and implementor operators, to be investigated at a later time.

Chapter Five: the Conclusions on the human's nature

Conclusions of this thesis wrap up in five categories: the nature of the presented content of this thesis, the proofs in text, what it means, what it clarifies, and what it offers on the table of science.

1. The Nature

The proposed tripartite system of operators AEIO is a model; it is a tripartite model. It is a model because it is a “graphical, mathematical (symbolic), physical, or verbal representation or simplified version of a concept, phenomenon, relationship, structure, system, or an aspect of the real world. The objectives of a [*this*] model include (1) to facilitate understanding by eliminating unnecessary components, (2) to aid in decision making by simulating ‘what if’ scenarios, (3) to explain, control, and predict events on the basis of past observations. Since most objects and phenomenon are very complicated (have numerous parts) and much too complex (parts have dense interconnections) to be comprehended in their entirety, a model contains only those features that are of primary importance to the model maker’s purpose” (Business dictionary, 2017). At the heart of this model, “is a system model (not necessarily a computer model) that represents the policy domain. The system model clarifies the system by (1) defining its boundaries and (2) defining its structure -the elements and the links, flows and relationships among them” (Walker, 2000: 13). The “policy domain” it refers to is the way to think about systems, the way of the tripartite edifice of operators.

The concept of this model is a “bridging concept”. “As a bridging concept, we [*I*] argue that the broad concept” of the AEIO “must be better defined in order to serve the narrower interests” (Mitchell et al., 1997: 862). As such it contains “ ‘powerful organizing concepts that make possible the reformation of the whole study in a simpler, more elegant form’ (Randers 1980: 135)” (Campbell, 2001: 200). I refer to the whole study in science itself, in which SyDy is called to lead this new ways, but also I refer particularly to the whole study of management. The organizing concepts are those of the administrator, evaluator, and implementor that find application in any system. Campbell defines organizing concepts as “the key components of the reformed mental model. They are the way that simplicity emerges from complexity” (Campbell, 2001: 200). The tripartite AEIO meet both of the components of this definition. The structure of the AEIO and its application in any system “draws on intuition as much as on method” and so “it is more an art than a science” (Walker, 2000: 12) at this stage of infancy. AEIO being a pervasion for any system it consists “a common language to discuss our business” (Campbell, 2001: 202). Management teams can use this “common language” witnessing having “improved communication within the organization and increased the speed of decision-making” (Campbell, 2001: 202) particularly when dealing with complex problems. AEIO model has a structure that was demonstrated throughout four stages of attention paid in this thesis. Firstly, I paid attention to who presents the concept of the tripartite structure. Secondly, attention was paid to whether the tripartite structure could clearly be classified as cognitive, emotional, and active.

Thirdly, attention was given to why this tripartite structure. Fourthly, I classified the findings in the categories I preach, those of the AEIO model and also in the categories of the three inquiries, of the problematization, of the analyzation, and the systematization. Having this structure attested, AEIO can be useful in changing the behavior and attitude of the related scientists. We witnessed at Hanssen et al. (2009: 43) the drop of the science, and pacification for facilitation, and also that “similar differences have been found with respect to negotiators’ tendencies to stress relationships and social roles instead of logic and reasoning” (De Wit, Greer, & Jehn, 2012: 364). On aggregate, scientists have exhausted the mainstream avenues. Finding nothing really efficacious “in 30 years of competing frameworks” (Edmondson, 1996: 572), scientists turn to the recently called “empirical science”. However, this new AEIO model can provide a simple framework in thinking and boost again logic and reasoning.

2. The in-text Proofs

The claim that AEIO can provide the framework needed in thinking and boost logic and reasoning has been demonstrated in several sections of this thesis. For example, when I stated “the proposed by me method aims to address the challenges implicitly”. This means that the AEIO model provides the framework to deal with the fact that “we treat the use of mind like we all use the same thing, of the same quality, in the same capability, and same way, and like we are all not different. For reasons, we never question openly the others’ qualities in mind and [. . .] we let go the most important thing, particularly in management: the way the others use their own mind” stated in the Introduction. On another note, this model offered a criterion to decide the definition of culture, so well phrased by Flamholtz (1983: 158) using already the tripartite AEIO model. Same case with Ryckman’s (2004: 4) definition of personality based on the AEIO tripartite model. AEIO also is presented as the framework, an attempt, to “bridge differences or merge disputations” when “nobody cares how do we state views, findings, and answers”. That has been proposed especially in the case of the not “unified and autonomous entity” of science and the fact that “having the aforementioned scholars perceiving views from one or another operator’s standpoint without acknowledging this respect, has resulted in numerous disputatious cases in most of which, whereas scientists of different perspectives are all correct, scientists end up involved in disputation, lack of consensus, and division”. For this, I enunciate, “how about if they knew the classification that now this thesis presents? What would the benefit be? Would it be of a greater quality in the scientific approach and time saving work?”

3. What the AEIO means

One very important meaning innate in this proposal is that since the man (moved from the own operators) makes things in “his own image”, and that is the image of the AEIO model, the man, while researching for the truth in things, will never settle until finds in things of research a structure that satisfies an inner match, that of the AEIO. This is the conclusion after witnessing in the stated preceding examples that scientists from different backgrounds and origins have followed this same path ending to present one way or another a sort of the AEIO model.

This has happened in unawareness of the scientists about this fact and has occurred randomly after taken lot of time and tremendous persistent work in research until outcomes satisfy such structure. “How about if they knew the classification that now this thesis presents? What would the benefit be? Would it be of a greater quality in the scientific approach and time saving work?” Mostly this occurs because the brain works and approaches things in this form. For example, where Campbell (2001: 196) refers to the “seven stages in the system dynamics model-building process”, which scientists like “Richardson and Pugh (1981)” and “Vennix (1996: 49)” largely follow, she states those as:

1. Problem identification and model purpose
2. System conceptualization
3. Model formulation and parameter estimation
4. Analysis of model behavior: testing and sensitivity analysis
5. Model evaluation: model validity
6. Policy analysis
7. Model use or implementation

Who wouldn't recognize in this list the three AEIO? numbered 1 to 3 state the abstracts of “identification, conceptualization and formulation”; numbered 4 to 6 state “analysis and evaluation”; and number 7 states clearly “implementation”. How come one more example follows this very AEIO model? Additionally, one can attest in this very model inbred the presence of the three inquiries, as a result of the innate AEIO; problematization from numbered 1 to 3, analyzation from numbered 4 to 6, and systematization at number 7. Quod erat demonstrandum; this is the meaning of the AEIO model. AEIO also means “tool”. It is an instrument to approach problems and construct a solution. For example, the three examples of “ineffective thinking” given at the beginning could be solved with the use of the AEIO model. In regards to those three, I have already elaborated my thoughts on the definition of culture. In the third example of BITSHING consulting, if a modeler was trained in the AEIO thinking, the modeler would have first acquired the concepts; then would have started evaluating them or at least drawn the Bianchi's drivers by comparing them and creating some sort of ratios; last, would have simulated and run the model whereas would check if the variables spoken by the owner were included. Last, in the second example of betting, there is an oversight from all three operators together that cancelled the logical outcome, which came from the thinking operator. When all operators meet and act together at the same moment at the same point of interest, we have intuition. Although I hypothesize that this mechanism defines intuition, there is a lot to be researched to this extent, at a later time.

4. What AEIO clarifies

Besides the keen view of intuition and suchlike new views inhabiting in these lines, there are some immediate practical views that can be claimed, such as clarifications of needed probes. For example, Andersen and Richardson (1997: 126) expect that “another line of research probes how individual mental models are shaped and influenced by systems-thinking interventions, with the related question of what aspects of the systems-thinking intervention seem to make the most difference”. AEIO contributes to clarity of “how individual mental models are shaped”.

Also, it greatly clarifies to “what aspects of the systems-thinking intervention seem to make the most difference”. AEIO also clarifies aspects of the sensitive and rather complicated aspect of control, and powers involved in control, with the simple attestation that when one operator overlaps the others, then dominates the outcomes and inquiries in action. This is the case in which the master of control studies, Ouchi (1979: 842), warns that “in some such cases, we accept the abrogation of individual rights as being secondary to a more pressing need” and in (1979: 843) “if the hierarchy of authority becomes relatively autocratic, however, the possibility of loss of individual freedom becomes real”. Ouchi (1979: 846) states the problem and claims that “in the longer run, the problem is to understand how, in a society that is increasingly pluralistic and thus goal-incongruent, in which interest groups become more distinct and in which a sense of community seems remote, the control of organizations can be achieved without recourse to an unthinking bureaucratization which is at odds with the increasing interdependence and ambiguity which characterize economic organizations”. AEIO model provides the know how to avoid recourse to an unthinking bureaucratization and the abrogation of individual rights by clarifying what are the functions of each operator and how that would be detected; by this, it also ratiocinates the allocation of powers and controls, enough only if one has determined the three sectors of an organization that replicate the three AEI operators. Furthermore, AEIO model can help clarifying ambiguous statements and explain somehow the writings of some researchers by elaborating and classifying what is in their mind. For example, Sanger (2012: 2) states that “ultimately leadership can coordinate organizational components for cultural change necessary for creating a performance-managed operation” and this sounds understandable. But only one who knows the AEIO model would try to clarify here which part in the statement does what and which component of the same statement affects another. In this statement one can detect the three components a leadership (managers) would be dealing with; the organizational components (that are to be coordinated), the culture (that is to be changed), and the operation (the business operation that needs to be created in the new basis of performance-managed). One would think that the coordinated organizational components consist the evaluating operator (the Bianchi’s drivers) since coordination interprets to comparisons, evaluations, and decisions making. Since change of culture would be the willing to achieve result, it would be the acting operator (the Bianchi’s end results). Then the performance-managed operation would be the stocks. There is also a possibility that this statement cannot stand such perusal but on the other hand it makes sense, and as noted, it is understandable; it is not something that one would immediately most likely reject or disagree with. So, how a “performance-managed operation” could be a stock or a set of stocks representing the thinking operator? This should be “performance-managed” and management uses “performance drivers”, therefore this is the evaluating operator. That leaves the organizational components to be the stock. This sounds of a better arrangement but needs some touch ups. It tells us that when Sanger states “coordinating” the organizational components, she means to choose the correct resources, not to coordinate them in the sense of managing and making ratios out of them.

It tells us also that when Sanger states “creating” the performance-managed operation, she doesn’t mean to create something in the sense of taking actions and creating results, but she means the Aristotle’s “making” of the appropriate ratios and drivers that would lead to the final acting operator of results, the change in culture. This analysis tells us that by using the AEIO model we could clarify ambiguous terms and/or statements like this one and learn, for example, that “coordinating organizational components” refers to choosing the needed resources, that “creating operation” refers to making the correct ratios based on performance, and that all of this would lead hopefully to a change in culture. I do not think that Sanger’s statement at the first place would give to the reader the impression we just concluded by using the AEIO model. Sanger’s statement, that is “ultimately leadership can coordinate organizational components for cultural change necessary for creating a performance-managed operation”, at its first glance gives the impression that what we wish to achieve (that is end results and final action) is “performance-managed operation”; it states clearly and reads “for [*the purpose of*] creating a performance-managed operation”. This clarity we have after all is reached by knowing this “Campbell’s organizing concepts” of the AEIO model.

On another example, Forrester (1992: 42) states that “management is the process of converting information into action. This conversion process we call decision making”. In this, management is the process of converting; then the conversion process is decision making. Apparently, what we have here is either two definitions of the same thing or the conclusion that management is just decision making; is it? No, management is not just decision making but way more than that. So, where is the discrepancy in this statement, if any? If one knows the preceding exhibition of the AEIO model, one can understand that the “converting information into action” part of Forrester’s statement refers to “taking information” from the stock of the resources of the thinking operator and convert it to validated ratios and drivers before action followed. So, in the first part Forrester refers to the step-by-step technique. However, the conversion process in its entirety, the process as a whole, is to evaluate the message the ratios carry and make decisions based on those drivers; this is the second part of Forrester’s statement. So, Forrester, in this classical statement refers to both, the technique of evaluating and the following the evaluation decision making, all of which is part of the evaluating operator, the evaluator. This clarity comes after applying the AEIO model organizing concepts and it was not there when this statement was first heard. At its first glance, this statement reads as “the converting process is management” and “the process of conversion is decision making”.

There is another Forrester’s of similar nature statement when Forrester refers to the “the directional relationship between parts” of the “organizational structure”. In the first part he states, “levels are the inputs to the flow of decisions” and then “only levels control decisions and rates of flow”. So, what do the levels finally do? do the levels control just decisions or also flows? Fortunately there is a second part, and Forrester continues with “the flow rates cause changes in levels” and also “decisions control flow rates”.

And further elaborates that “flow rates themselves are not inputs to the decisions” and “only rates resulting from decisions change levels” (Forrester, 1992: 45). The second part is clear; decisions control flows and flows control levels (stocks). To clarify the first part we need to run in another source of information; it could be an analysis of AEIO model but I chose the easier and most matching the AEIO model, the amazing Bianchi’s DPM model of strategic resources, performance drivers and end results illustrated in Figure 30 above and here.

FIGURE 30
DPM Components:
Strategic Resources, Performance Drivers, & End Results



Fig. 2 – A dynamic view of performance management (Bianchi, 2010, 2012).
Bianchi, Marinković, & Cosenz, 2013: 2

Levels control decisions, decisions control flows, flows control levels. Simplicity, a product of the AEIO thinking that occurs naturally and some scientists have grasped even though not aware of it. The preceding examples also attest that AEIO “draws on intuition as much as on method” and that “it is more an art than a science” as Walker’s claim states at the first stages of this Chapter five. By drawing intuition it can help to better understand and even correct statements that may be sound or are incomplete as made without considering this scientific instrument of the AEIO model.

For example, Vennix (1996: 134) states “as Richardson and Andersen (1995) point out the five roles will always be present, but they do not necessarily have to be performed by five different people. If there are less than five persons who guide the process, then generally one person combines more than one role. The project team may for instance lack a process coach and the facilitator will then have to combine two roles. Or in other cases a reflector might be lacking leaving this role to be distributed among the other persons guiding the process. In some cases the gatekeeper will also be the recorder etc.” and also that “as a minimum, two people should guide the process: facilitator and recorder (which in this case might also be the gatekeeper)”. For one who is used to the tripartite AEIO model, one would think that this minimum requirement of two process-guiding people would be three: facilitator, modeler (reflector), and recorder. Studying carefully those three roles one can amount the following: (1) that the facilitator “guides the group process” and “elicits the participants’ points of view” (Vennix, 1996: 134); also that “the facilitator/elicitor [. . .] leads the group discussion and keeps a constant eye on the group process in the room” (Hovmand et al., 2011: 1477); hence, the facilitator/elicitor is the thinking operator who helps the concepts to be drawn; (2) that the reflector reflects the drawn concepts in “system dynamics modeling” (Vennix, 1996: 134); also “the modeler/reflector” is “the person or team in the room constantly paying attention to how the formal simulation model is emerging from the group discussion, often providing critical model-based comments and insights to the client group” (Hovmand et al., 2011: 1477); hence, the modeler/reflector is the evaluating operator who interprets the concepts to variable and simulation model;

and (3) that the recorder is “the person who records ideas onto the group memory” (Vennix, 1996: 134); also the recorder is the one “who makes a real time record of all the discussions and decisions being made by the group” (Hovmand et al., 2011: 1477); hence, the recorder corporealizes the raised concepts by recording. These amounts may lead one to conclude that by considering three instead of two minimum may have a better balanced and complete minimum modeling team. These amounts also update the notion of the evaluator by adding the reflecting property. Facilitating, as a function of the thinking operator and recording as a function of the implementing operator are already stated, but reflecting as a function of the evaluating operator is not yet. It makes sense to add that the evaluator, by conception, interpretation, comparison, validation, mapping, and all what is stated in earlier stages of this thesis, reflects on the concepts of the thinking operator; validating, vitalizing, and valuing is also reflecting on the concepts. Hence, we can update the list to Table 14.

TABLE 14
Adding the Reflecting Function in the AEIO model

Operators; Ellipses; Principles		
<u>Head</u>	<u>Heart</u>	<u>Belly</u>
facilitator	modeler	recorder
Elicitor	Reflector	Registrar
BRAIN	HEART	BELLY
AEIO: Administrator-Evaluator-Implementor Operators		

Another example of intuition drawn from using the AEIO model is the Ouchi’s definitions of profession, clan, and culture which we witnessed in Chapter three subcase number five. At the clan level of socialization Ouchi claims that clan requires “agreement on a broad range of [*the set of*] values and beliefs” (Ouchi, 1979: 838). However, in axiom four (at the beginning) is stated that “the basis of knowledge is agreement reality”. Also Babbie (2008: 5) states that knowledge is “a product of the agreements we have with those around us”. Knowledge is not part of the thinking operator of culture because knowledge is not values and beliefs, and knowledge comes from research, relations, comparisons, validations, adoptions and rejections, things that happen at the evaluating operator. So, knowledge is a function of the evaluating operator and so is the body of clan that requires agreement of broad range of some stocks.

Now, one can understand better the concept of agreement reality while it is difficult to be grasped when first heard or displayed. This is a result of using the AEIO model to communicate theories and classify functions and knowledge. Above examples attest that AEIO consists “a common language to discuss our business” and “improve communication and increase the speed of decision-making”, as Campbell’s claim states at the first stages of this Chapter five. Quod erat demonstrandum; this is the power of clarity and of intuition lying in the AEIO model.

5. What AEIO offers on the table of science

It is true that “the world is undergoing rapid changes. The future is uncertain. Policymakers are faced with policy alternatives that are often numerous, diverse and produce multiple consequences that are far-reaching yet difficult to anticipate (let alone predict)”; also, today “there is usually no single decision maker and little chance of obtaining agreement on a single set of preferences among the consequences. As a result, there is no way to identify an optimal solution” (Walker, 2000: 11).

Hence, “optimization was replaced by satisficing. Simon defined satisficing to mean finding an acceptable or satisfactory solution to a problem instead of an optimal solution. He said that satisficing was necessary because ‘in the real world we usually do not have a choice between satisfactory and optimal solutions, for we only rarely have a method of finding the optimum’. Uncertainty became a more important element in the analysis” (Walker, 2000: 12).

Why do I refer to those statements? What do I propose? The solution I imply and propose -however, it needs the chance of further research- is “to deal with the dynamic characteristics of social systems”; and in order to do that “we must represent the essential policy skeleton governing decisions” (Forrester, 1992: 49).

The AEIO model is a skeleton and can govern decisions. Why? Because, as mentioned in the Introduction, this thesis aims to propose that the way to approach organizations and resolve inquiries, issues, and even intervention problems should be based on the tripartite set of operators, a tripartite skeleton, naturally existed in any organization, natural or legal, and that such approach would make life easier and open new avenues in providing ways to integrate methods like intuition. This tripartite skeleton is the AEIO model.

Chapter Six: the Research of the human's nature

In this thesis there are several excerpts stating new notions and views that cannot all be developed or unraveled in this, already long, thesis. A further research would be needed. This chapter serves as a prenotification and recording of this "further research" list emanating from this thesis mostly in the form of suggestive questions.

The base of the proposed further research lies in what I have stated in the Context about the human setting, the mind; that is, "we treat the use of mind like we all use the same thing; probably not of the same quality and probably not of the same capability, but in the back of our head is that we are equipped with the same thing (that is the mind) and that we only differ on the use of this mind and the choices we make with it; choices that affect the quality and capabilities of the mind, hence, we think it is those that make all the difference, and no difference in the innate nature of the mind is or should be there". To this respect, I think that the most interesting subject of future research in this thesis would be that of intuition. In (w: 46) above I hypothesize that intuition is the stage at which all operators meet concurrently and on same point of interest. I am not alone in thinking that this is the most interesting topic. Elbanna (2006: 10) concurs stating "intuition in strategic decision-making remains a topic for future research". Science takes a turn and tries to use intuition more and more. "Making decisions by intuition is increasingly viewed as a viable approach in the SDMP (Miller and Ireland 2005; Sadler-Smith and Shefy 2004). Eisenhardt and Zbaracki (1992) point out that studying intuition is one way to create a more realistic view of the SDMP" (Elbanna, 2006: 3) and "Butler (2002) concludes that more recent research has emphasized how executives make decisions using intuitive and political processes in addition to rational procedures" (Elbanna, 2006: 3). However, science is far from defining intuition yet. Though, some scientists try to approach in a very heuristic manner. An example as this "intuitive art and judgment are applied to setting up rigid rules whereby the formal decision policies can be derived. I feel we are not yet ready for this last level of abstraction until we have demonstrated teachable methods for applying art and intuition to the extraction of decision policies themselves" (Forrester, 1992: 49) contains a lot. Here, I want to strongly claim that the AEIO model works in the way to "have demonstrated teachable methods for applying art and intuition to the extraction of decision policies"; an answer to "why" is apparent, yet it needs the chance of further research. What credentials would support that such an approach, that is the AEIO model, would fit to work in the way to "have demonstrated teachable methods for applying art and intuition to the extraction of decision policies"? Where in the literature there are indications that this AEIO model relates somehow to intuition? Elbanna (2006: 10) states that "intuition is a synthetic psychological function in that it apprehends the totality of a given situation. It is often associated with having a hunch or a strong feeling of knowing what is going to occur (Vaughan 1989) without explaining the rationale behind it (Nutt 1998)". The credentials of such approach are stated in this: a strong feeling of knowing what occurs; those are the feeling, the knowing, and the happening; the sense, the concept, and the praxis, the three components of the AEIO are all here. If Elbanna and Vaughan are so close, why the AEIO model is not?

This leads to also further research and elaborate more in this recent methodology of scoping review. In this thesis I have used excerpts in broad range from all over the map and have interconnected them with the purpose to broach a new view of things. This couldn't be done unless scoping review was in place.

On another note, there is this observation that man-made things are created in the structure of the AEIO model; for example a bus is made with the thinking operator (the driver's cabin and the driver), with the vitalizing operator (the engine, A/C, all mechanical parts), and the implementing operator (the chassis, the seats, the passengers, and all that makes a bus recognized as such); or a school with the administration (administrative), the teachers-students staff (vitalizing), and the buildings with the permits and all what makes a school to function as a school (the corporealizing) operators. The same model resides in the society with, roughly, the government (administrator), the economy (vitalizer), and the land with the citizens (implementor). A computer is made like this, a house, businesses and many more makes. The question to be answered is, beside thinking and especially in management, what else the man makes in the image of the AEI operators and how? Having this perused, next questions to be answered are what is the mechanism by which the man makes things in "the own image", that of the AEI operators, whether this happens naturally or not, and whether the man knows it or not, and why. Does the AEIO model apply in all cases or only to what consists a system that is composed of parts that need to collaborate? From the preceding analysis there is a possibility (to be explored) that the tripartite AEIO structure is the structural basis of stocks and it is what consists the nature of stocks; if this is true, by using the AEIO model, could we start learning what happens inside "stocks"? That can bring SyDy into human being existence and functions. Then, this is philosophy and probably this is what actually SyDy is, not a tool of management or sustainability. All this needs further research and elaboration.

Are there other similar patterns or models, for example, penta-partite, or just the tripartite model? Last, some assumptions in the content need further perusal. The assumption "in an inward environment the operators perform outwardly and in an outward environment the operators perform inwardly" is an important one to be perused. It is based on some laws of physics and it is stated in combination with the statement "what Physics have to do with social issues and business management? Can we apply Physics in social issues? True essential questions. What is our perception on this matter?" The assumption here is that laws of physics do apply in social issues and this need to be proved.

To understand the direction of this suggestion, one needs to understand the importance of studying the conversion of flows from occurring in units of time to those of frequency, a notion that is presented in this thesis earlier. Things change when frequency changes and frequency affects spectrum. Flows affect stocks but we have not determined whether this is because of a flow's frequency or its carrying quantity per time. Though, we study them pursuing the latter.

When a duck surfs the surface of the lake, enjoys surfing thanks to buoyancy. If the duck stays more or surfs more often, hence the frequency of staying on the water changes, at a point will normally be looking for food and will start diving. Right there the “friendly” buoyancy becomes of “unfriendly” resistance; the duck now needs to dive and work against the buoyancy. Same thing happens in society. Competition, control, and power issues were not there since ever. They started at a certain point that the frequency of “being together” and socializing changed. We need further research and perusal of such matters in combination with notions from physics if we would want to improve our understanding on social issues.

Quod erat demonstrandum; further research is needed.

As mentioned in the Introduction, this thesis aims to propose that the way to approach organizations and resolve inquiries, issues, and even intervention problems should be based on the tripartite set of operators, the tripartite AEIO skeleton, naturally existed in any organization, natural or legal, and that such approach would make life easier and open new avenues in providing ways to integrate methods like intuition. With this the purpose of this thesis is fulfilled. However, the way to use this model and with this to approach organizations and organizational issues is yet to be enunciated and detail.

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APPENDIX

Clarifications

1.

All links cited should be checked at the point of line changing to delete any spacing between characters should the link work properly.

2.

AN: Author's Note.

3.

(AN: a): Author's Note [named] a.

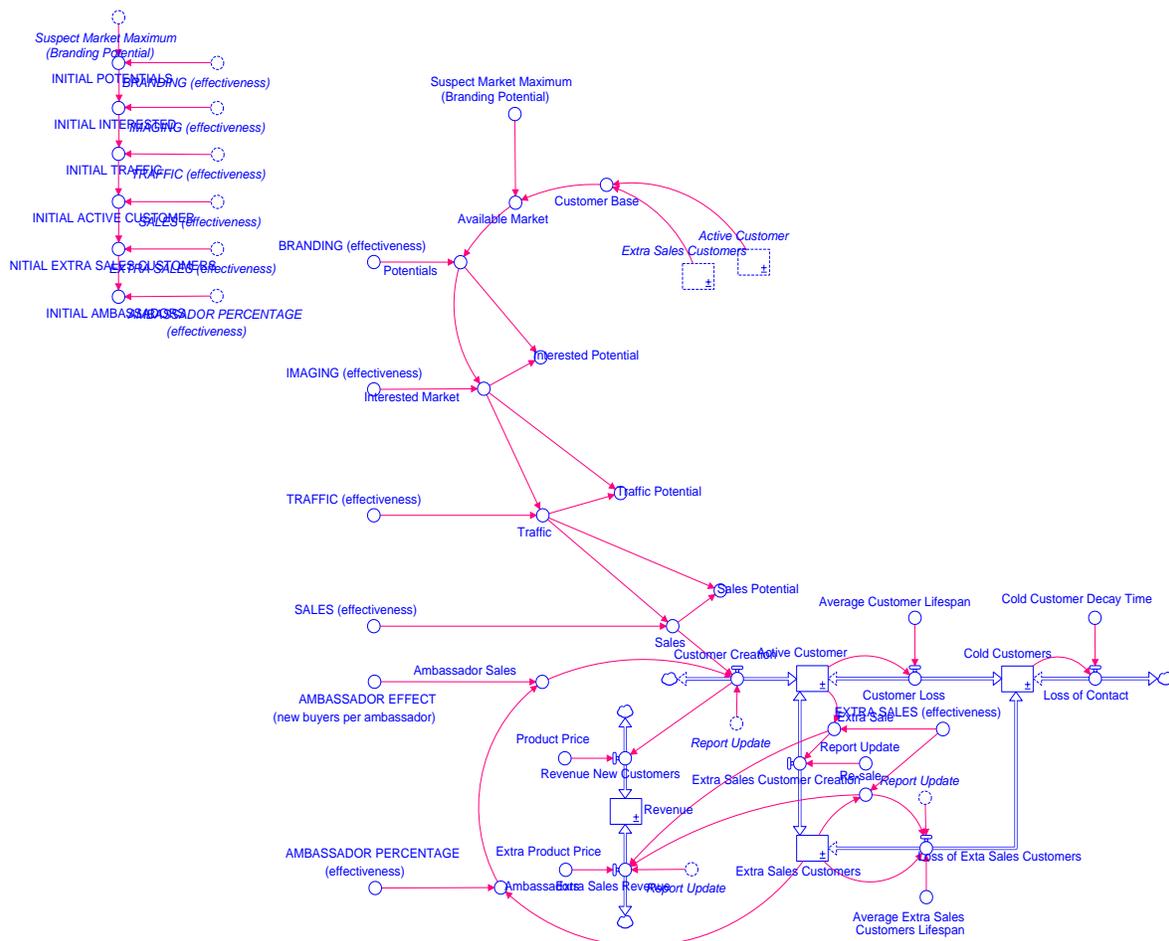
4.

(a: 4): see Author's Note [named] a which can be found on page 4.

5.

A better image of the Figure 16 on page 14. The author, being a part of this modeling project and group, decided that citation or reference for this model is not necessary; it would break the NDA and reveal the client's confidential information. However, some details and answers would be discretely given upon request via email.

FIGURE 16
Final Model Delivered to the BITSING company



Models' Equations and Units

A. BITSING models

BITSING models presented in Figures 14 and 15 are the same. BITSING models presented in Figures 10, 11, 12, and 13 are all built in Figure 14. Hence, the equations in Figure 14 are the same in all the rest of the mentioned Figures including Figure 15. Equations and Units in Figure 14 have as follows:

Stocks'-Flows-Variables' name	Equation or Value	Units
Total Firm's Revenue	500000	USD
E existing customers	10000	person
average Purchase	Total_Firm's_Revenue/E_existing_customers	USD/person
fraction of E referring Rs	0.12	unitless
R referrals from E	E_existing_customers*fraction_of_E_referring_Rs	person
Revenue from Rs	R_referrals_from_E*average_Purchase	USD
Time of Change	12	month
Change in Revenue	(Total_Firm's_Revenue+Revenue_from_Rs)/Time_of_Change	USD/month
Revenue Needed	8000000	USD
Gap in Revenue	Revenue_Needed-Total_Firm's_Revenue	USD

B. Instantaneous and Gradual SyDy models

i. Figure 19; Instantaneous Causality.

Stocks'-Flows-Variables' name	Equation or Value	Units
State stated	15	units of Stock
Fractional rate of change	0.22	1/month
Change of state	State_stated*Fractional_rate_of_change	units of Stock/month

ii. Figure 20; Population Instantaneous Causality of Births.

Stocks'-Flows-Variables' name	Equation or Value	Units
Population	15	person
Birth rate	0.13	1/month
Births change	Population*Birth_rate	person/month

iii. Figure 21; Principal Instantaneous Causality of Interest.

Stocks'-Flows-Variables' name	Equation or Value	Units
Interest	15	USD
Interest rate	0.065	1/month
Interest change	Principle*Interest_rate	USD/month

iv. Figure 22; Gradual Causality.

Stocks'-Flows-Variables' name	Equation or Value	Units
State stated	15	units of Stock
Desired state	45	units of Stock
Gap	Desired_state-State_stated	units of Stock
Time to adjust to desired level	22	1/month
Change of state	Gap/Time_to_adjust_to_desired_level	units of Stock/month

v. Figure 23; Sales of retail company.

Stocks'-Flows-Variables' name	Equation or Value	Units
Current sales	15	USD
Desired Sales	45	USD
Gap	Desired_state-State_stated	USD
Time to reach the Desired sales	22	1/month
Change of sales	Gap/Time_to_adjust_to_desired_level	USD/month

C. Figures 36 and 37; Concepts Forming from Stimuli Reception model.

Stocks'-Flows-Variables' name	Equation or Value	Units
Distance of sense organs from Stimulus	5	meter
Distance of sense organs from Memory	1/101010101010	meter
Relative Distance	Distance_of_sense_organs_from_Stimulus /Distance_of_sense_organs_from_Memory	unitless
Effect of relative Distance	Graphical; Points:	
	A/A Relative_Distance Effect of relative Distance	
	1 0.000 90.3	
	2 1.000 28.7	
	3 2.000 20.8	
	4 3.000 12	
	5 4.000 3.7	
	6 5.000 1.9	
	7 6.000 1.4	
Elements per stimulus Acknowledged by human	50	elements
Environment Richness in stimuli	10000	elements
Accuracy of conception	Effect_of_relative_Distance*Elements_per_stimulus_Acknowledged_by_human/Environment_Richness_in_stimuli	unitless
Stimulus Accessibility or distractive elements	Environment_Richness_in_stimuli /Elements_per_stimulus_Acknowledged_by_human	unitless
Acquired concepts	100	elements

Perceiving Time	2	second
time for Categorization	$0.5 * \text{Perceiving_Time}$	second
concept Categorization rate	$\text{Acquired_concepts} / \text{time_for_Categorization}$	elements /second
Change in Memory	$\text{Categorized_concepts} / \text{time_for_Categorization} + \text{concept_Categorization_rate}$	elements /second
Categorized concepts	Acquired_concepts	elements
Conception Relativity or Comparing two stimulus images	$(\text{Categorized_concepts} - \text{Acquired_concepts}) / \text{Categorized_concepts}$	unitless
Validity of stimuli conception	$\text{Accuracy_of_conception} * \text{Stimulus_Accessibility_or_distractive_elements} + \text{Conception_Relativity_or_Comparing_two_stimulus_images}$	unitless
New Conception rate	$\text{Acquired_concepts} / \text{Perceiving_Time} * \text{Validity_of_stimuli_conception}$	elements /second

D. Figures 39 and 40; Thinking affected by Parental and Social Standards model.

This model is just an example and presents a thought of how to approach such subject. It provides the idea of thinking development while one learns and gets affected by parental and social standards. The data provided are empirical, not scientific.

Stocks'-Flows-Variables' name	Equation or Value			Units
Parental conception	Graphical; Points:			
	A/A	TIME	Parental conception	
	1	0.00	24.5	
	2	1.00	71.1	
	3	2.00	65.1	
	4	3.00	37.4	
	5	4.00	20.6	
	6	5.00	14.5	
	7	6.00	16.3	
	8	7.00	24.8	
	9	8.00	51.3	
	10	9.00	57.3	
	11	10.00	55.5	
	12	11.00	54.9	
	13	12.00	54.9	
	14	13.00	66.9	
	15	14.00	85.6	
	16	15.00	100.0	
	17	16.00	100.0	
Social standards	Graphical; Points:			
	A/A	TIME	Social standards	
	1	0.00	24.5	
	2	1.00	71.1	
	3	2.00	65.1	
	4	3.00	37.4	

	5	4.00	20.6	
	6	5.00	14.5	
	7	6.00	16.3	
	8	7.00	24.8	
	9	8.00	51.3	
	10	9.00	57.3	
	11	10.00	55.5	
	12	11.00	54.9	
	13	12.00	54.9	
	14	13.00	66.9	
	15	14.00	85.6	
	16	15.00	100.0	
	17	16.00	100.0	
Initial perception	Parental_conception			concepts
Conception	Initial_perception			concepts
Desired perception	$(\text{Social_standards} * \text{Parental_conception}) / \text{Conception}$			concepts
Wonder or perception Gap	Desired_perception - Conception			concepts
thinking Time	28			second
thinking	$(\text{Wonder_or_perception_Gap} - \text{Conception} + \text{Initial_perception}) / \text{thinking_Time}$			concepts /second

E. Figure 41; Thinking while teaching model.

This model is just an example and presents a thought of how to approach such subject. It provides an idea of the development of thinking while one teaches and enriches the own already learnt principles, concepts and ideas with updates. In this case the updated concepts do not change the original idea or conception but enrich it. The data provided are empirical, not scientific.

Stocks'-Flows-Variables' name	Equation or Value			Units
Parental conception	Graphical; Points:			
	A/A	TIME	Parental conception	
	1	0.00	24.5	
	2	1.00	71.1	
	3	2.00	65.1	
	4	3.00	37.4	
	5	4.00	20.6	
	6	5.00	14.5	
	7	6.00	16.3	
	8	7.00	24.8	
	9	8.00	51.3	
	10	9.00	57.3	
	11	10.00	55.5	
	12	11.00	54.9	
	13	12.00	54.9	
	14	13.00	66.9	
	15	14.00	85.6	
	16	15.00	100.0	
	17	16.00	100.0	

Social standards	Graphical; Points:		
	A/A	TIME	Social standards
	1	0.00	24.5
	2	1.00	71.1
	3	2.00	65.1
	4	3.00	37.4
	5	4.00	20.6
	6	5.00	14.5
	7	6.00	16.3
	8	7.00	24.8
	9	8.00	51.3
	10	9.00	57.3
	11	10.00	55.5
	12	11.00	54.9
	13	12.00	54.9
	14	13.00	66.9
	15	14.00	85.6
	16	15.00	100.0
	17	16.00	100.0
Initial perception	Parental_conception		concepts
Conception	Initial_perception		concepts
Desired perception	$(\text{Social_standards} * \text{Parental_conception}) / \text{Conception}$		concepts
Wonder or perception Gap	Conception-Desired_perception		concepts
thinking Time	72		year
thinking	$(\text{Conception} - \text{Wonder_or_perception_Gap} + \text{Initial_perception}) / \text{thinking_Time}$		concepts /second

F. Figure 42 and 43; Initial Dynamics between Administrator and Evaluator operators model.

This model is just an example and presents an idea of how the operator of feeling would evaluate and approve concepts of the thinking operator. Data are empirical.

Stocks'-Flows-Variables' name	Equation or Value	Units
concepts Under evaluation	990000	concept
concepts Evaluated	10000	concept
evaluating average Time	9	month
rate of Nonsanctioned concepts	$\text{concepts_Evaluated} / \text{evaluating_average_Time}$	concept/month
rate of evaluating concepts	$\text{Effect_of_new_conceptions_on_evaluating}$	concept/month
total concepts on an issue	$\text{concepts_Under_evaluation} + \text{concepts_Evaluated}$	concept
Ratio of mature for evaluation concepts	$\text{concepts_Under_evaluation} / \text{total_concepts_on_an_issue}$	unitless
frequency of perceiving using new concepts	100	concepts /concepts/month
effectiveness ratio of evaluated concepts	0.01	unitless
Effect of new conceptions on evaluating	$\text{concepts_Evaluated} * \text{frequency_of_perceiving_using_new_concepts} * \text{effectiveness_ratio_of_evaluated_concepts} * \text{Ratio_of_mature_for_evaluation_concepts}$	concept /month