THE ANTHROPOCENE PROBLEM AS AN AXIOLOGICAL

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Abstract

What does it mean that we have an anthropocene problem in the world? It means that the value of "Conservation of Nature" or the "ecological problem", is underperformed in relation with other goals of society. But the real problem is that an adequate conservation of nature depend of the rest of the universal human values that inevitable are associated with it. Which are these values? According with a certain Reference Pattern of Universal Values (RPUV) are the following nine: Health, Wealth, Security, Knowledge, Freedom, Distributive Justice, Conservation of Nature; Quality of Activities, and Moral Prestige. Among these goals of society there is always a dialectical relationship where a better performance of the value "Conservation of Nature" may lead to a decrease of Freedom, Wealth and other values. That is why to imagine any kind of solution for the anthropocene problem can be only seen as related to the other values.

Human Needs, values, indicators, organizations, axiological profiles

Any social organisation or system inevitably revolves around two axial concepts. *needs* and *values*: needs *of* the people and values *for* the people, both concepts referred to a theoretical list of common human objectives that I will call the Reference Pattern of Universal Values (RPUV). The reciprocity of this pattern is such that if the **Needs** of a given society can be expressed in a model of, for instance, 97 empirical indicators (such as the example I will be using below), **Values** must necessarily be expressed in terms of such 97 indicators; and if only 22 indicators were enough to validly represent the needs of a society, values must then refer to these 22 indicators. Therefore, the kind of satisfactions depends on the needs, and vice-versa, and the relationship between the two is shown in Figure 1.

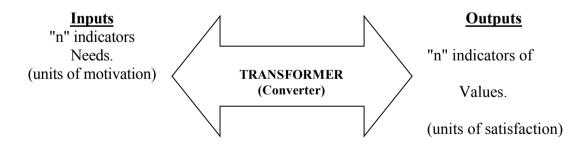


Fig. 1: "Transformation" of Needs into Values

What kind of values?

Let me make two considerations:

- 1. In the complex world of needs and culture, values can be classified under two major categories: cultural and universal. The former are those that are characteristic of each specific culture, which will be considered secondary (dress, greeting, eating, celebrating important events, etc.) and may change in time and space. The latter are common to all societies and consequently, the ones on which we have focused to establish the RPUV (health, safety, justice, etc. that we shall see below). The former are culture-specific, the latter general and universal.
- 2. The degree of specificity and abstraction of the model must strike a balance between a small number of highly abstract system functions (as in Parsons) and a large number of specific indicators. Actually, we find that we must choose between a single Value, that consists of achieving a general Well-being as the concept of Happyness, or through using a set of indicators that represent this general concept. Well-being seems to be the goal on which we all target and think that we can reach through multiple factors that may be represented, for instance, by the nine values proposed below and the hundreds or even thousands of indicators that make them operative. But while a single concept of wellbeing would not be useful because it would entail concentrating information too highly, it would be equally unwise to use so many indicators that it becomes unmanageable. The Reference Pattern of Universal Values (RPUV) to be used must, then, be a model comprising not more than nine essential values, to strike a happy medium both allowing for an understanding of the theoretically important dimensions of the system, and providing a way of formulating them in a structure that is clear and meaningful to the population. It is a matter of balance between maximum specificity and minimum detail to ensure manageability, but also and above all, of adopting a sociological approach, that is to say, to ensure that the meaning of RPUV is directly perceived by and for people. And people that may belong to any kind of social systems or organizations (families, enterprises, political parties, states...)

Before going into a list of the indicators under which the RPUV would operate, certain comments about the specific indicators should be proposed in order: First of all, the indicators are designed for application to three kind of social systems (States, Enterprises and Universities). This entails the advantage *mutatis mutandis* that it is easy to move from complex social systems to simpler ones. The number of indicators proposed to define a given Value has no bearing on the relative importance of the value; a Value represented by only a few highly concentrated indicators may be considered to be more important than others with a larger number of indicators. The system of indicators is not limited to using existing information, but in fact empowers it by pointing out the need for additional information. Thus, for example, routine statistics on the "number of working days lost due to accidents" are not always readily available, but they would be very useful, and this suggests a possible indicator. Indicators are characterised by being as direct as possible, and therefore highly concentrated. When an attempt is made, for example, to see how well the value "(social) Justice" is working, we will not review the personal distribution of economic income, which is the usual procedure, but rather certain special mobility indicators that consider not only the distribution of such income, but also of other - cultural, political, social etc. - "incomes". If these mobility indices show that the situation is satisfactory, it must of course be concluded that economic income is appropriately distributed. The indicators proposed always intend to be the shortest route to the information, focusing more on ends than on means. Finally, the indicators are as unambiguous as possible; in other words, they represent values desired by a majority of the people. Thus, for instance, a Religiosity index is not included because there is no clear

consensus about whether being religious is "good" or "bad" as there is, for example, about being healthy or ill. There are, of course, some indicators on the suggested list that are somewhat ambiguous in this regard, but they have been kept to a minimum. Moreover, certain areas of concern may be missing; needless to say, this is an open and dynamic list that must be adapted to cover the information most suitable to each kind of system reviewed or specific research study. The list presented here intends merely to cover a number of generally applicable essential indicators.

The indicators

Health

It is assumed that one of the fundamental objectives pursued by most individuals and peoples is to live as long as possible in the best possible health or physical and mental condition. With respect to the indicators, it is suggested that this Value be quantified using the indicators traditionally employed by the World Health Organisation to define the state of health of the people in each nation.

Material wealth

It is assumed that most individuals and peoples wish to live as confortably as possible. Table 2 shows the indicators that refer in general to material standard of living, under two general headings, "standard of living" and "economic security". The indicators intend to focus on the actual standard of living of the population as a whole. The index on savings, not at all easy to obtain in full, provides information both on economic power and on the degree of future security and as such should be interpreted.

Security and law and order

It is likewise assumed that individuals prefer, in general, to live peacefully and orderly in accordance with known rules and where contingencies and the need to rise to new circumstances do not entail too much discord or call for making inordinate efforts to adapt to them. Table 2 includes two dimensions in an attempt to measure what we have called Public and Operational Safety, and assuming that the indicators suggested validly represent what is usually understood to be Safety in a modern Nation-State.

Knowledge

It is assumed that most individuals and peoples are curious to know about their surroundings. Table 2 attempts to quantify the Value Knowledge in three dimensions: "Educational level", "Reading" and "Research". Other indicators that have not been included, such as intermediate educational levels, the domestic consumption of paper for printing (deducting exports) or the number of patents registered, may also be used.

Freedom

The following working hypothesis is assumed: freedom (political, of expression, of movement, etc.) is desired and pursued by most individuals regardless of the kind of social organisation they live in.

Justice

It is likewise assumed that equality among human beings, regardless of race, religion, ideology, sex, etc., is a generally accepted principle among civilized peoples. Table 2 shows how well the "total national pie", i.e., economic, cultural, functional, etc., is distributed among the individual members of the social system. The 21 indicators used are

somewhat different than the indices most commonly used to measure distribution of wealth. However, as mentioned above, the distribution of economic wealth is implicit in these indicators. The result of this set of indicators would undoubtedly be quite surprising. especially if actual percentages are compared. Thus, for example, it is maintained that if 51 per cent of a population are women, ideally (i.e., the target) 51 per cent of the executives running the economic, political, religious, etc. sub-systems should be women. If this is not the case, the implications are, aside from the effect of certain biological determinants in women's professional activities, that for whatever initial and historic reasons, the operation of the system is "structured" to keep women's influence, or at least their direct influence, to a minimum. Deeply entrenched educational principles and unconsciously sexist attitudes lead to situations in which there are, for instance, no female generals, bishops or union leaders in certain social systems. The general discriminatory principles that are at the root of this system conduct are likewise present in the case of other groups that are discriminated against, such as workers or underprivileged class children, blacks, etc. The ideal, of course, would be for all of the indices comparing % of positions held to % of population be as close as possible to one. Any deviation from that result would in principle mean undeniable *de facto* discrimination. Table 2, then, provides a very general summary of the actual level of "equal opportunities" existing in the society under study.

Environmental conservation

It is further postulated that one of the urgent needs of modern society and one of the targets of economically developed countries is conservation of the environment, to counter the detrimental effects of such development. Table 2 lists the indicators suggested for "Environmental Conservation". Sight should not be lost of the fact that most of the information required for this Values either does not exist or is still being compiled, so institutional efforts are called for in this regard.

Quality of activities

It is assumed that all human beings should develop their full potential, which development should take place in all dimensions and aspects of life, from work to relaxation, from suffering to pleasure, from birth to death. Table 2 shows the indicators that represent this value called "Quality of Activities" which are an attempt to measure in some way the extent to which human beings participate, create, and reach self-fulfilment and self-development via the enhancement of their human capacities.

Moral Prestige

Finally, another working hypothesis on which the Reference Pattern of Universal Values is based assumes that individuals need to give, do something valuable for others, and to seek love, admiration and respect. Table 2 shows the indicators for Prestige, here understood in the international sense, since initially it is referred to the Nation-State. Application to other systems will of course call for the adaptation of such indicators.

The transformation operation suggested in fig. 1 does (or should do) satisfy the people's needs, and the RPUV is what acts as a theoretical-conceptual bridge to transform Needs on Values, degrees of Motivation on degrees of Satisfaction, Inputs and Outputs, Means and Ends result then perfectly *comparable*. The RPUV is designed, as we will see below, to attempt to measure - with an acceptable degree of accuracy - the overall Efficiency of the System by comparing these two magnitudes.

The Reference Pattern of Universal Values (RPUV) therefore is a nominative relationship of End-Values assumed to be desired, pursued or sought by the population at large. It is assumed to be valid to measure both the performance of social systems and important sociological concepts such as *change*, *progress*, *social regression*, *socialisation*, deviance and so on. It is postulated that most individuals, located in no-matter-what space and time pursue these values from cradle to grave and the only thing that differentiates them is the emphasis or weight that each individual places on each value in a given circumstance. By System of Values, in contrast, we mean the axiological configuration (or combination of the relative importance of the end-values) that each individual adopts as a living standard or pursues at any given time. The RPUV is, then, a universal pattern while the System of Values ranges so widely that there are probably as many such systems as individuals in society. The author (Parra Luna, 1974, 1977, 1983) has been using a Reference Pattern of Universal Values that seems to have been useful on several occasions. Such pattern is based on the adoption of nine essential Needs, which the System attempts to satisfy via the achievement of nine quasi-universal Functions and Values, as shown in Table 1.

Table 1: The Reference Pattern of Universal Values.

THE REFERENCE PATTERN OF UNIVERSAL VALUES (RPUV)	
HEALTH	Y ₁
WEALTH	Y_2
SECURITY	Y_3
KNOWLEDGE	Y_4
FREEDOM	Y_5
DISTRIBUTIVE JUSTICE	Y_6
ENVIRONMENTAL CONSERVATION	Y_7
QUALITY OF ACTIVITIES	Y_8
MORAL PRESTIGE	Y_9

From this table, and through the standardization of statistical data from "0" (minimum) to "100" (maximum) (Parra Luna, 2001), it can be worked out

$$N = \sum_{i=1}^{9} N_i / 9$$

as the average level of the needs (N) or inputs of the system, and, in the same way.

$$Y = \sum_{i=1}^{9} Y_i / 9$$

the average level of values (Y) values or outputs of the system..

The number "9" is logically the number of complex values in the expression, but if a longer number of empirical indicators (n) are used, the formula should use "n" instead of 9. For instance, if we use the 84 indicators suggested for the Nation-State in table 4, then, the expressions should be:

$$N = \sum_{i=1}^{84} N_i / 84$$

$$Y = \sum_{i=1}^{84} Y_i / 84$$

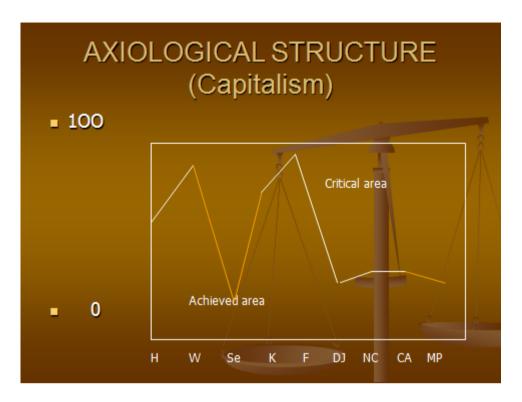
The order in which the needs and values are shown has no particular significance. Nevertheless, Health and Economic needs (which correspond more or less to what Maslow called physiological needs) are generally considered to have priority over Protection against contingencies. The latter, in turn, is usually felt to be higher on the list of priorities than Knowledge and naturally than other more political needs such as Justice (social) or Freedom. Lowest on the list would be harmony with Nature, Self-fulfilment and Moral Prestige. But this order is based only on their historical origin, because today the value of Conservation of Nature is, as we know, one of the most urgent to be solved.

Having introduced the RPUV as the general measurement standard, the first methodological concern that arises before proceeding to quantify it, involves homogenization or standardization of the indicators in order to make results directly significant and comparable, which is not difficult to perform in any of its varieties. In short, the Values and Indicators to be used as outputs should meet the three basic requirements: a) they must be defined to be *good* (this can be done by a weighted sample of experts); b) they must be *desired* by the population at large; and c) they must be obtainable *onerously* or must be of an "acquired" rather than an "ascribed" nature. Goodness, desirability and onerosity are then, the three basic traits that a value must have to be included in the Reference Pattern of Universal Values. Through these requirements and the standarization of the empirical indicators used, it will be possible, then, to define what system of values we are performing, which implies to know towards of kind of society we are going and to mesure operationally such concepts like Change, Progress. Social Development, Social Regression and many others. This endeavour, within the research process on the Axiological Systems Theory program, has been suggested in Parra-Luna (2001/02).

The Axiological Profiles

On the basis of this structure and according to the quantification of indicators mentioned above (between "0" and "100") is possible to present some hypothetical axiological profiles that may illustrate the deep philosophy of political systems. Let us see for instance the two main political regimes: .

Only from a hypothetical point of view, which would be the "Systems of Values" performed by the political system so called "Capitalism"? In principle, something very alike as in fig.2, where the values of Wealth (W) and Freedom (F) are overdeveloped at the cost of values as "Security" (Se) or "Distributive Justice" (DJ)



On the contrary, which would be the axiological profile or "System of Values" of political organizations such as the so called "Comunism"?

Somethink very alike as in fig. 3

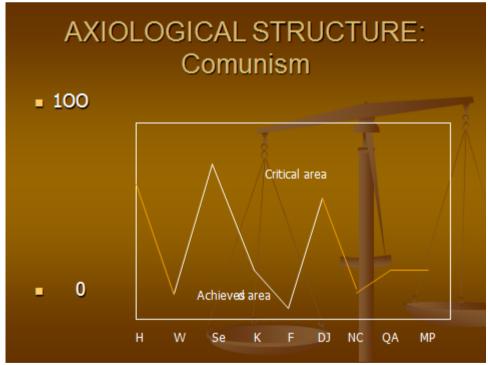


Fig. 3: The typical axiological profile (System of Values) a "Comunism"

Where the values of "Security" (Se) and "Distributive Justice" (DJ) are accentuated over those of Wealth (W) or Freedom (F).

Which profile is better or worse? In principle it is not possible to say, unless we calculate the area under the profiles and after the different values and indicators are weighed with a different consensuated number in order to determine an objective comparable area valid for both types of philosophy.

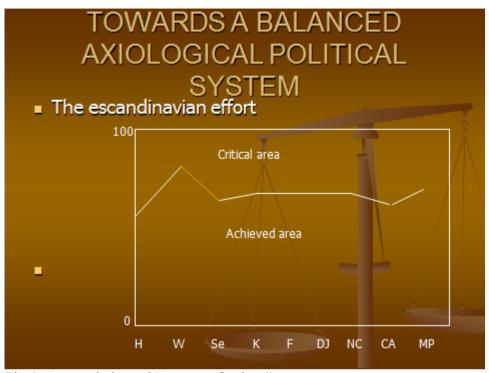


Fig.4: A more balanced "system of values"

All we can say is that it is necessary, first, to balance this axiological profile as in fig. 4, and second, to increase the levels of achievement in each one the nine values as much as possible if we are looking for progress like in fig. 5

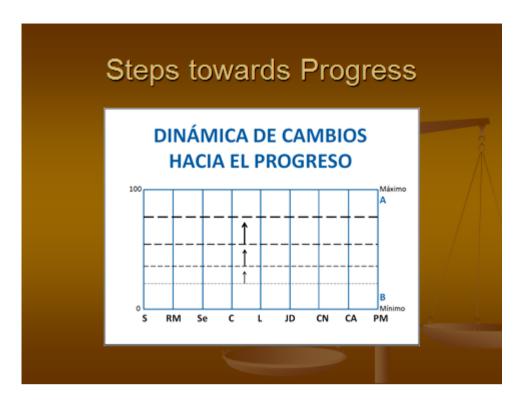


Fig. 5: Steps towards Progress

The Operationalization of Values

Now, in order to define operationally each one of these universal values, some empirical statistical indicators can be suggested like in table 2.

Table 2

INDICATORS			
NATION STATES	ENTERPRISES	UNIVERSITIES	
HEALTH		HEALTH	
<u>Life expectancy</u>	HEALTH	- Lost days due to illness	
- Life expectancy of one-	- Days not worked due to	(inverse index)	
year-old. (females)	illness (inverse index)		
- Proportional mortality rate	- Day lost due to accident /		
at the age of 50.	total numbers of employees.		
- Infant mortality at the age			
of 1.(inverse index)			
Quality of life.			
- Days not worked due to			
illness or accident. (inverse			
index)			
Means dimension.			
- Medical or paramedical			
staff/10000inhab.			
- Hospital beds/10000inhab.			

MATERIAL WEALTH Standard of living - Homes with no running water (inverse index) - Homes without electricity (inverse index) - M² of housing and land per capita % of GNP spent on tourism abroad - Number of telephones/1000 homes - Per capita Gross National Product Number of cars/1000 inhabitans. Level of economic security - Savings.	pesetas) - Productivity: units of outputs/ total number of employees Overall wages per	MATERIAL WEALTH - (Total budget -Total income from students) / Total budget Average general salary % graduates working during the first year Porcentaje of students with fellowships Average total cost for students/average total cost for students in competitive universities.
SECURITY (LAW AND ORDER) Public safety. Domestic - Crime rate (invers index) - Number of death due to political unrest or revolutionary processes (inverse index) - Total number of demonstrations (authorized + non authorized) (inverse index) - Number and power of nuclear power plants for peaceful purposes (inverse index) - Foreign military bases (inverse index) - Number of coups d'etat.	SECURITY - Functional security (invers index) - Number of employees injured / total number of employees Number of functional incidents / total number of employees Working days lost due to strikes or disputes/ total number of employees Staff of subcontracted companies/ total number of employees Level of customer satisfaction Financial securityMonthly liquidity Guarantee index.	strikes (inverse index) - Number of incidents

(inverse index) - Number of (proven) attempted an unsuccessful coup d'etat (inverse index) Foreign - Number of deaths due to conflicts abroad (average index) - Military power Nuclear military risk. (inverse index) Operational - Days not worked due to labour conflicts (inverse index) - Number of accidents (job, traffic, etc.) (inverse index)	-Sinking fund / investment necessary annual reserve endowment / turnover Accumulated reserves/ equity.	
KNOWLEDGE Educational level - Illiteracy rate (inverse index) - Children not enrolled in school (inverse index) - % of university graduates Reading level - Press. Index - Number of books per home Research - Royalties trade balance. Index - % GNP devoted to research	% of income consecrated to research - Training: employers engaged / total numbers of employees Average training level of staff Participants in training courses/ total number of employees Purchase and rate index of patents and royalties Research aid / total expenditure.	professorsNumber of books published/number of professorThe average of marks achieved during the most recent nation-wide research assessment exercisePostgraduate research students/ postgraduate taught students Income for research/total budget.
FREEDOM Political - Number of political prisioners (or persons shut away in psychiatric hospitals, deported, etc.) (inverse index)	meetings Departmental information	professors - Number of students belonging to free

- Rate of authorized/nonauthorized demonstrations - Number of free elections. referendums, etc., per year
- Freedom of the press and editorial freedom
- Mentions in Amnesty International (inverse index) Social
- Foreign migration rate
- Domestic migration rate Religious
- Separation of Church and
- Freedom of worship
- Freedom of propaganda

activities during working hours / total number of employees.

Level of unionisation: unionised employers / total number of employees.

DISTRIBUTIVE JUSTICE By gender

- Percentage of women in Parliament and Government
- Percentage of female executive presidents of the 1 largest (public private) companies in the country
- generals in the armed forces
- Percentage of women editors-in-chief of the 200 largest newspapers in the country
- Number of women bishops By race
- Percentage of blacks, gypsies or other marginal minority in the Parliament and Government
- Percentage of blacks, gypsies or other marginal minority that are bishops By social background
- Percentage of members of Parliament or the Government who were born in the working class
- Percentage of bishops who

DISTRIBUTIVE JUSTICE

- Salary scale: lowest/lighest wages.
- the Average women's wages/ average men's wages for equal works.
 - Average women's wages/ or average men's wages.
 - Objective recruitment/ total recruitment.
- Percentage of women Objective promotions/ total promotions.
 - Share in profits: profits distributed to personal / total profits.
 - Staff entitled to corporate profits/ total number of employees. Staff entitled to stocks options/ total number of employees.
 - Staff entitle to works bonuses/ total number of employees.

DISTRIBUTIVE JUSTICE -Student participation in examinations.

ENVIRONMENTAL CONSERVATION Fauna - Quantity - index - Diversity - index - Diversity - index - Hectares lost to fire (inverse index) - Diversity - index - Hectares lost to fire (inverse index) - Diversity - index - Atmospheric pollution rate (inverse index) - River pollution rate (inverse index) - Sea pollution rate (inverse index) - Sea pollution rate (inverse index) - Percentage of park areas in cities > 100 000 inhabitants	appropiate.	ENVIRONMENTAL CONSERVATION - Percentage of park areas in the campus.
QUALITY OF ACTIVITIES UNEMPLOYMENT dimension - Unemployment rate (inverse index) PARTICIPATION dimension (worker management and self- employment) Rate of worker participation - Self-employed workers - Workers in worker- managed firms - Workers in cooperatives - University professors and public school teachers - Other self-employed professionals Participation in public life - Time devoted to political militancy - Time devoted to labour union militancy	quality/ total number of employees. - Workers in boards of managing directors/ member of managing directors. - Workers in boards of administration / members of boards of administration. - Social and working atmosphere barometers. - Percentage of temporary staff. - Average duration of temporary contracts. - Personnel with flexible working hours/ total number of employees. - Personnel working at	ACTIVITIES - Number of professors/number of students Books on library/number of students Computers with free internet access/number of students Infomatization index - Tutorials/number of students - Index of students participation in university government Index of artistic activities Computer expence/total expenses Library expence / total expence.

- Time devoted to militancy	employees.	- Total capacity in
in citizens' groups	- Overtime/ total number of	1 5
LEISURE TIME AND	employees.	- Total number of computers
ARTISTIC WORK	- Emotional capital.	for students/ number of
dimension	1	students.
- Hours worked per week		
(inverse index)		
Artistic production		
- Number of paintings		
exhibited		
- Number of recordings		
- Number of sculptures exhibited		
- Number of play openings		
- Number of art books		
published		
- Number of motion pictures		
produced		
MORAL PRESTIGE	MORAL PRESTIGE	MORAL PRESTIGE
- Percentage of GNP devoted	_	
to donations abroad -Number of international	professors - Level of customer	professors.
	- Level of customer satisfaction.	-Honoris cause received by professors.
headquarters in the country	- Internal spending/ total	±.
- Rate of foreign		classification of universities.
immigration	- External social spending/	
- Number of foreign military	1 0	total number of applications
stationed in national territory		to degree courses against the
(inverse index)	turnover.	total applicants accepted.
- Population growth rate	- Corporate image.	- Income from industry/total
	Power	income.
international sports	- Market share.	- Student's qualification
competition	- Number of employees.	required for entering at the
- Rate of success in	- Strategic alliances, total market share.	University.
international art shows	-Total personnel in affiliated	
	companies.	
	Companios.	

This, then, is an initial list of indicators that are intended to quantify the proposed Reference Pattern of Universal Values in an attempt to reflect both the *needs* of any sociopolitical system and therefore what should *be done*, regardless of the emphasis placed on each specific Value, dimension or indicator. The pattern, merely a nominal model of

values to be pursued by any society, intends to be a unique tool, i.e., to serve as a *common scheme* for the analysis and comparison of societies. What will differ is the Systems of *Values* arising from the different emphasis or possibilities of practical implementation of the Values, and the indicators that represent them, which depend on the dimension and type of social system.

Finally, it is necessary to emphasize again the distinction between "Reference Pattern of Universal Values" (RPUV) and "System of Values" (SV) and applying it to the Anthropocene Problem. Figure 5 stresses the nominal nature of the former (it is only a list of the values that should be in any case performed), and the gradual nature of the latter (until which extent each one of the values are performed in relation with the others).

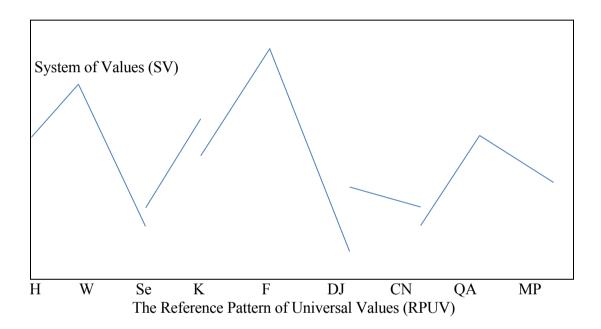


Figure 5.- Difference between "Reference Pattern of Universal Values" (RPUV) and "System of Values" (SV). the case of the Anthropocene problem.

This fig. 5 shows precisely the typical axiological profile which define axiologically the Anthropocene policy followed just in 2015. A system that accentuate mainly the value of Freedom (F), but to the cost of three main values: Security(Se), Distributive Justice (DJ) and above all "Conservation of Nature" (CN) where all the three are performed at a very law relative level in comparison with the others six. And it seems clear that if this scheme continues working all over the world, the anthropocene problem will became very difficult to solve.

The roster of needs is, then, one of the highlights of the theory of social systems, the core around which the operational theory proposed could resolve the problem. Given the central role that RPUV plays in this theory, we feel that a more complete formulation of the pattern is one of the most pressing needs in current systems theory today at the world level. The present paper is simply a first step taken in the hope that work will continue to be undertaken in this important field by others.

CONCLUSION

As a resume it could be concluded with only three main recommendations: first, that it is absolutely necessary to take into account, to register, and to be very well aware, of the "System of Values" we are performing at the world level, and which would be our future if we continue that way; second, in order to be fully grasp this "system of values", to implement as a rutine maintenance, some type of methodology like the axiological profiles in all kind of social organizations, both public and private; and third, to implement a general educational program at schools in order to be aware that we as individual human persons are, in this sense, and in relation with the Anthropocene problem, simple "walking axiological profiles". The future of the world, then, would depend solely on our personal axiological behavior.

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