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The "scientific-meta-ethics": a science of ethics

Abstract

The "Scientific-Meta-Ethics, or simply **SME**, to shorten it, is a scientific-philosophic theory that aims to standardize, or rather, to bring ethics and morals into the domain of science, and as a consequence and as a consequence to bring law and justice as well.

Keywords: ethic, moral, science, scientific-meta-ethics, happiness, feelings

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Introduction

The "Scientific-Meta-Ethics, or simply **SME**, to shorten it, is a scientific-philosophical construction designed to "normatize" morals and ethics: to make them an area of knowledge with clear, objective and scientific rules. The word "Meta" indicates that it is not a specific ethic, to be used in a particular context or social environment, but rather a philosophical concept that is broad and above any ethics. In fact, as we shall see, the SME is not restricted even to the human species. The SME is formed by the union of two philosophical-scientific concepts: An extension derived from the classic Utilitarianism and the Jocaxian Happiness formula. Before going deeper into the SME, we should take a look at the concepts of "Ethics" and "Morals".[1,2]

Ethics and morals

The Michaelis dictionary tells us:

eth.ics

f. n. 1. Part of the philosophy that studies moral values and the principles of human conduct. 2. Set of moral principles to be observed in the exercise of a profession.

mor.al

f. and m. adj. 1. Relative to morality good customs. 2. Which proceed according to honesty and justice, which has good customs. 3. It is said of everything that is decent, educational and instructive. S. f. 1. Filos. Part of the philosophy that deals with the human acts, the good manners and the duties of the man in society and before those of his class. 2. The laws of honesty and modesty. S. m. 1. Set of our moral faculties. 2. Disposition of the spirit, energy to endure difficulties, dangers; mood 3. Whatever concerns spirit or intelligence (as opposed to what is material).

The difference between Ethics and Morals is not very clear. For many philosophers, as for this author, the following definitions of Morals and Ethics will be considered:

Moral can be defined as being a set of values, not necessarily normative, but which is in some way incorporated to the human being, or, in a general way, to society, through its culture or through its genes, which act in our minds through instincts. Instincts will be considered in their broadest sense: genetically inherited mental algorithms that are activated, or not, according to environmental conditions. As an example of instinctive morality - of genetic origin - we can cite the taboo of incest, primitive notions of justice, possession, territory, etc. It is very important to point out that almost every moral rule is, directly or indirectly, related to our evolutionary past, to the Darwinian way of how our species evolved.[3] A robotic, or artificial society, for example, would not need to have any of our moral codes or instincts. The goal of morality is to inhibit conflicts between individuals, preventing exacerbated individual egoism - natural and intrinsic - beyond what is considered acceptable, permitting social interaction and thereby increasing the "general welfare" of individuals in this society.

Ethics, in turn, is a set of reasonably well-defined norms that must be known, obeyed and respected, and which are valid within a given context or social environment. These norms aim at reducing or even eliminating conflicts between beings participating in this context and thus providing an increase in "general welfare". In this definition, ethics would be the standardizing of morality: a way of formalizing and improving certain rules that, in a way, would already be intuitive.

It is important to note that we do not have direct access to our "genetic semantics," we do not know exactly the basic moral code that is genetically encoded in our brains, that is, we do not know how many and which mental algorithms are intrinsically incorporated into our brain. More importantly, without being able to objectively evaluate the result that a given ethic provides in terms of social happiness, we can not guarantee to what extent a given ethic actually forms a legitimate set of values that represents what is in fact considered fair, or then, on the other hand, it could be an arbitrary set of values, incompatible with our human essence, which would oppress us and promote more unhappiness. The objective of the SME, in terms of the human species, is also to avoid that codes of ethics and their derivatives, such as justice and law, become incompatible with the human essence and can be used arbitrarily, at the mercy of personal values of legislators on duty

In this text, we will treat "Ethics" and "Morals" as synonyms and, unless otherwise explicitly stated, interchangeably.

The "Pre-SME" Era

Before the SME was understood, disseminated and used, that is, in our present age (beginning of the 21st century), Ethics and Morals and their derivative products such as Justice, Politics and Law were, at best, understood and formalized from a nebulous and ill-defined criterion known as the "General Well-Being." This when they were not simply based on religious dogmas, totally arbitrary and old-fashioned and, most of the time, with no ties to the new values of a constantly changing society.

As an illustration, we can cite an excerpt from biblical morality: "If a young woman is given to a man by a wife, and the man discovers that she is not a virgin, then he shall be taken to the entrance of his father's house and they will stone to the death.-Deuteronomy 22: 20-21. " Those who think that few follow at the foot of the letter are rules of conduct based on so-called "sacred" texts are mistaken.

Recently (2007), for example, a young woman was stoned to death in the Middle East (Iraq) simply because she was dating a boy from a different religion than her own family![4–12]

Even if "pre-SME" ethics are not based on "sacred texts" we must realize that they are nonetheless subjective. And subjectivism is serious and dangerous because it depends on the experiences and values of those who formulate or use them. It is therefore a personal and particular product, and it can not be guaranteed that such values will necessarily benefit the greater part of society, even if they are truly "fair" according to our intuitive and particular sense of justice and morals.

The beginnings of the SME

We can consider SME to have emerged in November 2000 - almost a year after Jocax published his "Formula for Happiness" (December 1999) - in a message criticizing an article by R. Dawkins in which he indicated that morality should be outside the scientific scope. In Dawkins's words: "First, however, a brief parenthesis in the statement that religion has some special expertise to offer us on moral issues. This is often happily accepted even by non-religious, presumably in the course of a civilized "bent over backward" to give the best point that his opponent has to offer - no matter how weak that best point may be. The question 'What is right and what is wrong?' Is a genuinely difficult question that science certainly cannot answer. "[1]

In this critique, Jocax puts the formula of happiness as a non-subjective factor, in which ethics and morals should finally and definitely pass to the scientific realm: "If we understand momentary happiness as a state of mind of pleasure and happiness, in general, as a summation of these time-weighted states, we can, a priori, quantify happiness as long as we can measure the mental state of pleasure and/or suffering at a given instant. That is, if we take the core of ethics, as a norm that aims to maximize the happiness of the individual within the group, the problem will be well defined, and thus the question: 'What relation does a particular action have in the group's happiness? 'What is the translation of the moral question:' What is right / or wrong? 'Such a question could then be treated quantitatively and scientifically. And morals would fall, finally, to the scientific realm! "

We said earlier that the SME was the union of an extension of Utilitarian ethics with the Jocaxian formula of happiness. Therefore, to understand the SME, we must understand these two components, and then see how they must relate to produce the SME.

The utilitarianism

Utilitarianism is also a meta-ethic since it proposes to normalize ethics in general. A survey on the internet gives us a good text (by Rubem Queiroz Cobra) on utilitarianism:

"*"Utilitarianism is a type of normative ethics - originated in the works of English philosophers and economists of the eighteenth and nineteenth centuries. Jeremy Bentham and John Stuart Mill - that an action is morally right if it tends to promote happiness and reprehensible if it tends to produce unhappiness, considered not only the happiness of the agent of action but also that of all affected by it*

Before, however, of these two authors give shape to Utilitarianism, utilitarian thought already existed, including in ancient philosophy, especially in that of Epicurus and his followers in ancient Greece. And in England, some historians point to Bishop Richard Cumberland, a seventeenth-century moral philosopher, as the first to present a utilitarian philosophy. A generation later, Francis Hutcheson, with his theory of "moral sense" maintained a clearer utilitarian position. He coined the utilitarian phrase that "the best action is one that seeks the greatest happiness for the greatest number of individuals." He also proposed a form of "moral arithmetic" for the calculation of the best possible consequence. David Hume attempted to analyze the origin of the virtues in terms of their useful contribution...

For Bentham, the rule of seeking the greatest possible happiness for as many people as possible should have a central role in the art of lawmaking, in which the legislator would seek to maximize the happiness of the whole community by creating an identity of interests between each individual and his / her fellows. " [2]

Utilitarianism proposes that ethics should aim for the greatest happiness for the greatest number of individuals. But, unfortunately, it does not define what is happiness, much less how to calculate it.

The SME also makes a small change in utilitarianism, extending it by first proposing that the best action - the one that promotes greater happiness - should not be restricted to a particular group of organisms, not even to one species, but to cover all sentient beings (capable of feeling), regardless of whether they are human or not. Thus, the first deviation from the SME in relation to traditional utilitarianism lies in the group in which happiness must be taken: that of all sentient beings be they humans, insects, aliens or robots. Also, we know that humans are very selfish and can use the SME restricting it to its own species: the group that should have their happiness maximized.

The "formula of happiness"

The Jocaxian Formula of Happiness, or simply FH, was written in December 1999 in a New Year's message to a list of college alumni. The meaning of the FH, described here, will not be, as many may think, to show a path to be followed in order to obtain happiness - this is the role of genism - but a way of objectively defining what happiness is and from this definition, to obtain a mathematical means of making its quantitative evaluation of it.

In that 1999 text FH had been defined as the Integral of what we feel (pleasures and pains) weighted (multiplied) by its duration in time.[4] In a more concise way:

$$Happiness = \int feeling(t)dt$$

$$\textbf{(Happiness Formula)}$$

In this Formula of Happiness (FH), pleasure would contribute a positive numerical value and suffering and pain with negative values, indicating a negative contribution to total happiness. We can include suffering, pleasure and other feelings in a single word that will indicate a concept of broad meaning: "Feeling." Thus, ***Happiness is the sum of the projection of everything we feel on the axis of pleasure-suffering weighted by its duration in time.***

The unity of happiness is the Jx (reads Jocax) in a self-homage to its inventor ☺. Strictly speaking, happiness depends on the length of time it is felt. In addition to the position in the time in which it is felt, happiness also depends, as we shall see below, on the duration in time in which the feelings that compose it last.

The reader may be confused about what is being defined: Happiness by itself or a way of calculating it? The answer is that the two things are being defined at the same time. Happiness is being defined as the sum of the *feelings projection*: The 'shadow' of feelings over the pleasure-suffering axis. ("Feelings", here defined, represents all that can be felt as emotions, sensations and feelings) weighted by their duration in time.

This is something, in fact, a bit abstract since what we can perceive directly is the feeling of an instant form not happiness. However, time is of paramount importance in this notion of happiness here defined. In addition, it is also being proposed that this happiness can be evaluated numerically and the FH, above, is the equation that provides a numerical value from its definition.

Happiness and time

It is easy to realize that happiness depends on the length of time each feeling is felt. Consider, for example, the contribution of pleasure in savoring a delicious chocolate truffle for the interval of 1 second. Suppose this pleasure, during this 1 second, contributes 0.1 Jx of happiness to total happiness. If the same pleasure of savoring the sweet lasted for another second, then we would have a happiness contribution of 0.1 Jx (of the first second) + 0.1 Jx (of the next second) totaling 0.2 Jx (= 0, 1 Jx + 0.1 Jx). This simple example shows how happiness depends directly and proportionally on the temporal duration of the feeling (s) involved. Of course, over time, the pleasure of savoring the sweetness may diminish, and thus happiness for 1 second at the beginning of the tasting (0.1 Jx) may be quite different from the happiness provided by this same sweet, at the same time of 1 second, after a few minutes of tasting. This is simply because feelings may change over time. For this reason the projection function "Feeling (t)" in FH depends on the exact instant of time (t) in which the feeling is evaluated.

The integral

The role of Integral ($\int$) in the formula is to divide the time into very small intervals (infinitesimal) so that, within each of these microscopic intervals, the Feeling function (t) can be considered constant and the multiplication for the infinitesess of time that has lasted can be done. Moreover, as each infinitesimal is evaluated, the new value of the feeling function (t) on that new infinitesimal is also reevaluated. The integral function is only given in upper courses of exact, if you do not understand it do not worry. The important thing about the formula is to know that the duration of each feeling must be multiplied by the value of this feeling to compose total happiness. Thus, FH can be understood as the sum of all feelings multiplied by their respective temporal duration. The measure of the happiness of a being or something that does not feel like, for example, a stone, is defined as zero.

Associativity and commutativity

It is important to note that FF does not privilege any particular time instant. In this way the feelings that are evaluated in the past will have the same degree of importance in the happiness of the feelings that are evaluated in the present, or even of those that can be estimated in the future. This, at first glance, may seem strange, for it may seem to us that the feelings we feel in the present, in the present moment, are more important than those of the past. But we should note that the present has become past as well, and if a feeling was important in that second it will not become less important when it is part of the past. Thus, the happiness value of what is felt is preserved. In addition, we have to consider that feelings in the past tend, naturally, to have repercussions in the future, whether through memories, or in ways of thinking or ways of acting, affecting present and future happiness. These effects will be evaluated naturally through what we feel, which will then also be counted as feelings that are.

What is the feeling?

We will consider "feeling" in this text, in its broad form, encompassing all forms of feeling like emotions (fear, fright, joy, etc.), sensations (pain, heat, cold etc.) and complex feelings (love, jealousy, envy, etc.). And, at the same time, we will restrict ourselves to biological species endowed with the nervous system. We must make it clear that this restriction in this text is not a fault of the FH, since we can define feelings in a generic way that would encompass even beings without a single neuron, like robots, but rather an approach that elucidates, in a practical way, the use of FH in our real world.

The feeling is a signal (external or internal to the body) that the body sends the consciousness (in the brain) so that it is evaluated and, eventually, it is answered. A signal is a physical stimulus, external or internal to our body, which stimulates our nervous system in some way. Feeling is therefore an indicator that something must be done in relation to the signal so that the signal –eventually- ceases to affect us.

The main way to stop a feeling that bothers occurs when the body responds satisfactorily to it. We say that feeling has been satiated, satisfied, or resolved when we act in such a way that the signs cease or, if they do not cease, cease to produce those feelings. Some examples: When we are under the strong Sun, the signals (external = solar rays) produce the feeling of heat that can be solved if we find a shadow; When we are hungry the (internal) signs of the body informs our brain that we need to feed, and while this is not done the feeling will not cease; When someone purposely harms us by making us suffer, this external sign can generate a feeling of revenge or anger, which is also an inner sign, which may not easily disappear if this feeling is not quenched.

Feelings can be considered a more sophisticated form of "action instincts." The "action instincts" are those that cause the body to respond automatically to a particular signal. Feelings do not do this, they only indicate to the body that it must solve in the most appropriate way possible, using some intelligence and, in the human case, also reason, in the problem of how to act to satiate such feeling. In a constantly changing environment, this indirect approach is much more efficient than the automatic form, since it increases the range of possible response actions, making the ways of solving the problem more comprehensible and flexible, and thus satiat the feeling.

One concept that we will use a lot in this text is the one of "Gene-Perpetuation". We can define "Gene-Perpetuation" in a recursive way, in which one uses the very concept that is being defined in the body of its definition. Thus, an action is called "perpetual gene" if it provides the organism with a greater capacity for survival and / or reproduction, and / or increases the "perpetuating" ability of its offspring and relatives. This recursive definition implies that "Gene-Perpetuation" is a set of factors that increases the survival capacity of the * genes * of the organism through the ages, since the survival of the genes occurs through the survival and reproduction of the organism itself or of those who share genes with him, especially his descendants.

Absolutely every feeling can be explained evolutionarily. Feeling is a form of genetic adaptation of the organism, that is, it arose by natural selection because it somehow benefited (genetically) the organism that carried it in its evolutionary past. In this way, each feeling has a function that has aided (and sometimes still assists) the organism in its gene-perpetuation.

Neurologically, feelings, as instincts, are activations of neural subsystems. Such subsystems are usually housed in the limbic brain system: a set of interconnected neurons to form a mental algorithm that responds specifically to specific stimuli of the environment or certain body signals. Thus, every feeling, or more precisely, the ability to feel (mental algorithm) is inherited, transmitted from parents to children via genes. Feelings are, therefore, very old ways of signaling to consciousness that it must act in order to satisfy them. Not all

feelings are the same evolutionary age, some are much older than others. The very old feelings, such as hunger and fear, are located in the reptilian system of the brain, one of the oldest structures in our brain. During evolution, other feelings have emerged as a way to solve problems of adaptation to the social environment. The newer feelings on the evolutionary scale must therefore be those connected to adaptation in society

"Conjugated feelings"

Consciousness needs to know, through pleasure or suffering, whether the actions that the organism performs are correct, in the sense of satisfying a given feeling and thereby increasing its gene-perpetuative possibilities. The feeling that arises in the act of satisfying or satisfying a desire I defined as being the "conjugated feeling" to this desire. For example, hunger tells the body to feed. The act of eating will reduce hunger, but before the hunger, which is painful, ends, the act of eating and beginning to satisfy the hunger desire will already produce a pleasure, the pleasure of satisfying hunger. The pleasure of satisfying hunger is not hunger, it is a pleasure corresponding to the diminution of hunger is the "conjugate pleasure" of hunger. "Conjugated feeling" is a feeling associated with the act of sating another feeling towards the goal: If a given feeling is about to be satiated, for example, through actions that go to your satisfaction, there will be an associated sense of pleasure to this variation. Thus, if the variation of feeling occurs in the sense of satisfying the goal, it will cause pleasure or suffering, otherwise. These "conjugated feelings" associated with the satisfaction of other feelings are internal signs designed to show the consciousness that actions are (or are not) moving towards the goal of the organism. They are feelings that, at least in the short term, always contribute to the increase of happiness.

Comparing feelings

The most controversial part of FH is how to turn such a wide range of feelings into a single number. How to compare feelings as disparate as pride and hunger? How to compare love and sleep? These questions were answered in the article "The Formula of Happiness: Advanced Aspects".[6] However, I will address them here again, with a new approach.

The first key question is: "How to turn a feeling into a number?" And this is actually the simplest question of them. To answer it we have to think from the scientific, monistic point of view, and put aside souls, spirits, gods and elves: (human) feelings are products of brain processing and end point. Mind and everything else that is felt comes from the brain and nowhere else outside of it. We can then associate each type of feeling, from hunger to love, from pride to sleep, the activation of certain brain regions, and associate a number with the degree of activation of these regions. An article by Marcelo Gleiser, "The Map of Feelings",[5] provides an approach to how this can be done and measured. The strength of a feeling, its degree of intensity, would be proportional to the degree of activation, such as blood flow and / or oxygen consumption or the frequency of synapses, of the brain areas involved in that feeling.

We can see that, in our neurological model, the frequency of synapses is fundamental for the measure of happiness. To realize this, it is enough to do a simple mental experiment: If an organism produces a million synapses in two seconds to produce a given intensity of "x", then if this same amount of synapses is produced in half the time (for 1 second), we would have this feeling with twice the intensity, because what was felt in two seconds would now be condensed in half the time, in a second, twice the frequency. But with this doubling rate of synapses, in two seconds, we will have a contribution of this feeling, bad or good, double for happiness. From this study we can conclude something important:

In organisms endowed with the nervous system, the intensity of a feeling is proportional to the frequency of the synapses, and since happiness is time-weighted feeling, happiness would then be proportional to the total number of synapses of the brain areas responsible for it.

However, if we consider that all organisms of the same species have the same average frequency of synapses (for simplicity we will take this hypothesis in this text), then, in the comparison between members of the same species, this data will become irrelevant.

The second question is more difficult: "Is it possible to compare different feelings, such as love and sleep? And how can this be done? "The answer is: Yes it is possible to compare disparate feelings like pride and hunger, love and sleep or cold and anger and this is true because that is basically what the brain does all time. This is the essence of our "free will," our ability to choose. The brain receives dozens, perhaps thousands of types of signals per second of information about the environment and the body itself: hunger, cold, thirst, passion, fatigue, anger, sleep, tactile sensations, responsibility, fear, etc. From these inputs, and depending on the degree of intensity of each, it must choose the action that should prioritize, which feelings should be answered as a priority and which ones should be contained. When one sensation is more "strong" than another it takes privilege in its satisfaction with the other. So, for example, if hunger is great we can put aside sleep and seek food. The converse is true: If the intensity of sleep is too strong we leave the hunger aside to get some sleep. That is: the brain compares distinct feelings all the time to make the choices we make. In the following topics we will see how sensations and feelings can be quantified.

Genes: the "common denominator"

The second part of the question now comes: "How can this be done? How can we compare mathematically such different feelings?".

To answer these questions, in this model, we will need, as always, to use the theory of evolution. The modern theory of evolution, neo-Darwinism, is studied by evolutionary biology and it is gene-centered, how organisms evolve and adapt to preserve their genes. The brains of all animals, particularly mammals, are also evolutionary adaptations. The Brain has been evolutionarily shaped to solve problems of "genetic perpetuation" (maximizing long-term gene survival). We can conclude that the feelings were evolved in the sense that, when they were satisfied, they would generate greater benefits to the genes of their bearer. Through pleasure, obtained by the satisfaction of feelings, would induce the organism to preserve its life and its genes. Suffering and pain would play the opposite role: it would induce the body to avoid them, since they would indicate a danger to their lives and their genes. Briefly: The search for pleasure and escape from pain is directly related to gene-perpetual attitudes. If happiness is the sum of the "pleasures" of the organism then organisms also seek, instinctively, to maximize their happiness. If organisms seek happiness, then we may conclude that the actions that the brain chooses are those which, he presumes, will maximize their happiness.

The first Jocaxian model of comparison of distinct feelings is in what jocax calls the conversion of signs to a common pattern or "common denominator": Its gene-perpetuating value.

The perpetual gene value ("PGV") and the perpetual gene level ("PGL")

The evolutionary function of the brain is to solve problems of adaptability to the environment to maximize the "perpetuating" possibilities of its carriers. The responses to internal and external

signals will be more efficient if they pass through a brain filter capable of evaluating them. If the signals were answered instinctively, directly and automatically, without any kind of analysis, the responses to the signals might not be good. Intelligence makes responses to problems more efficient. Thus, the signals that enter our brain can be answered more intelligently if they undergo a pre-evaluation, that is, if they are instead transformed into a common denominator to be compared. This "common denominator", which normalizes the signals to be compared, is what I call "Perpetual Gene Value" ("PGV"). The "PGV" would then be the normalized value of what we feel: Signals that are processed in different brain areas are transformed into their respective "PGV" s so they can be compared.

According to the Jocaxian model of feeling,[7] the signal enters the nervous system and is analyzed in relation to the goal of the organism (basically the gene-perpetuation). It is at this moment that consciousness becomes aware of its existence. The moment the signals are transformed into their respective "PGVs" s is the moment that we feel them in a conscious way. So what we feel is the product of a pre-processing derived from the signals we receive that are ready to be compared. If, for example, we choose to sleep rather than quench our hunger, it is probably because the sleep "PGV" (the intensity of the feeling of sleep) is greater in absolute values than the "PGV" of hunger (intensity of the feeling of hunger).

The Brain is constantly evaluating the body's "**Gene-Perpetual Level**" (GPL), which would basically be its gene-perpetuating potential, or, recursively defining it: The organism's Gene-Perpetuative Level is the sum of its chances of survival and reproduction together with the "Gene-Perpetual Level" of their descendants and relatives. Briefly: GPL should indicate the current level of the organism's potential for survival, ie its long-term genetificity. This potential for genetic survival depends on a number of factors, such as the resources for their survival and their children, the number of children, the number of relatives, etc.

Using these two concepts, we affirm that feelings that, if not satisfied, result in a decrease in the "Perpetual Gene Level" will be considered sufferings, and their "PGV" values will be negative. These feelings, when satisfied will tend to normalize the GPL to its former value. Thus, the more the feeling indicates a loss of GPL (a goal escape), the greater, in absolute (more negative) values, will be its "PGVs", and this would tend to decrease the happiness of the organism. As an example of feelings that generate negative "PGV" s, we can mention hunger, physical pain, thirst, anger, jealousy etc.

On the other hand, if satisfaction of feeling implies an increase in GPL of the organism, the more pleasurable, in general, will be the feeling. In this case, your "PGV" will be positive and therefore this feeling will contribute positively to happiness. We can cite as examples of feelings that generate positive "PGV", love, libido, and, above all, the satisfaction of the feelings that cause suffering - the "conjugated feelings" - as, for example, satiation of thirst of thirst), the satiation of hunger (conjugate of hunger) etc..

A simple example will help elucidate these concepts (values are fictitious, just to set ideas): Suppose the brain of an organism evaluates its GPL of the moment in 100 Gp. Then he begins to hunger, which can not be satiated yet. Hunger indicates a basic bodily need, which, if unsatisfied, can even lead to death. This hunger causes the body's NGP to drop from 100 Gp to 99.5 Gp. The fall of GPL indicates a loss of its Gene-Perpetuative capacity and, therefore, the feeling is of suffering, because it brought about a fall of GPL. Now the organism has a GPL of 99.5 Gp, so it looks for food and finds. In satisfying hunger comes pleasure (the conjugated feeling of hunger). It is a feeling of pleasure that it increases the body's GPL from 99.5 Gp back to the previous 100 Gp.

It is important to note that feelings in our evolutionary past that were useful to us, and that their non-satisfaction might indicate a departure from the body's goal-a decrease in GPL -in our present society, may no longer serve the same purpose. Such feelings may be obsolete on many occasions when they may arise in the modern world, and are even dangerous to the goal of the organism. In this way the non-satisfaction of these feelings, although they can generate a short-term misfortune, in the long run can generate more happiness. If, for example, we are afflicted with a sense of hatred or jealousy among others, which in our evolutionary past meant that, for the sake of our genes, we should readily quench it, for example by physical aggression, and that such satisfaction would make our short-term happiness increase, that, today, does not necessarily remain valid; quite the contrary, aggressive action can bring much more misfortune in the long run than happiness, even if its conjugated pleasure alleviates anguish momentarily. The same applies to other harmful feelings such as revenge, envy, etc. Would anyone in their right mindset think it was worth spending 30 years of their life in prison just because they resolved to satisfy a feeling of anger that might last only a few minutes? Genes have allowed rational control of our actions over our instincts and feelings precisely to avoid such noxious outbursts and to increase our "perpetual-gene" ability.

The value of feeling (PGV) and the goal of the body

The goal of any organism, evolved Darwinianly, is always, and indefinitely, to increase its GPL. The organism is led to increase its GPL through its feelings. Feeling is a way of telling the brain that some action, or set of actions, needs to be taken in order for the feeling to be satisfied. In evolutionary terms, satisfaction of feeling should also contribute to an increase in the body's GPL. For example, if there is a feeling of hunger it should persist until the body performs actions to quench hunger, and thus eliminate feeling. As long as the feeling is not resolved (sated), depending on the feeling, it may persist and even increase (eg hunger) or decrease (eg anger). If the signal received means a departure from the body's goal (decrease in its GPL), the value of the feeling associated with this signal should be negative, indicating suffering (eg physical pain). The greater the variation in GPL, indicated by the signals that reach the brain, the greater, in absolute values, will be the PGV of the feeling. The death of a child is probably the worst pain a human being can suffer. The loss of a child entails an enormous decrease of the GPL of the organism since a son carries 50% of the chromosomes of the father / mother.

While it may be easy to understand the value of a feeling, such as hunger or sleep, in relation to the goal of the organism, as a way of meeting its gene-perpetual needs, the same can not be said of more complex feelings such as pride or envy. How, for example, to understand "envy" and what value, relative to the goal, should it have? To elucidate the case we have to understand the feelings as evolutionary forms of the organism respond to the physical and social environment in which it is inserted.

The Value of a feeling, for beings of the same species, can be measured, as we saw earlier, by measures of the degree of neural excitation or oxygen consumption of the brain regions responsible for this feeling, This would provide a PGV for that species. However, if we are to compare feelings for beings of different species, as we will see later, we should use absolute values for PGV, such as multiplying the mean frequency of synapses by the number of neurons involved in the process. Moreover, we can also evaluate a feeling directly by

neo-Darwinian theory, without having to go through the evaluation of internal measures of neural activity: The more important - for the genes of the organism - the solution of a feeling, the greater the weight of this feeling for the happiness of the organism.

Evolutionary psychology

Feeling can be understood as an indication that an action must be done to meet the body's goal. The goal of every species that has evolved Darwinianly is genetic perpetuation, the continuous pursuit of the increase of its Gene-Perpetual Level. Genetic perpetuation, unlike many people think, is not having a large offspring. Having children is important for increasing GPL, but it is not the only factor. Also, the fact that we share genes with other beings makes all the difference. It is not for other reason that social insects, such as bees, ants and termites, have evolved. Although most members of the colony are sterile, the high genetic sharing among their members causes altruism to be high. So, ultimately, feeling is a measure of the distance or approach of the organism to the preservation of its genes, I repeat: genes that are not just in your body. The Brain evaluates the signs of the environment, or internal signs, and verifies that for its greater genetic preservation, actions must be taken in a given direction. The goal would be to maximize the amount of genes that would be preserved for as long as possible. It is easy to see that a number of factors may contribute to increased GPL. Among these factors we can mention: Power, Material goods, status, Social Recognition (a form of status), Comfort, Wealth, Beauty, Health etc. These factors are sought because they help and increase the chances of perpetuating the genes since they would also increase the chances of survival, of conquering partners etc. Does anyone know what the odds of a great-grandson of a millionaire starving to death? The science that studies human behavior in light of the preservation of genes is called "Evolutive Psychology." As this science is new, its name is still not well established and can also be known as "Evolutionist Psychology" or else as "Evolutionary Psychology".

The reason for doubt

We humans, like any other animal, are sometimes in doubt about the choices we have to make. Our decisions are not always clear and secure. Why would we doubt whether the feelings that are involved in these choices are so disparate? For example, we may wonder if we go to the movies or stay at home resting, have an ice cream or try to keep weight, if we buy something or save money. According to our model, the doubt is the evidence that the evaluation of happiness made by the brain, in the different options that come to him, provides a very close prediction. Thus, when the brain evaluates happiness by agglutinating to a single parameter the different feelings involved in the various options that we have and these values are close, a doubt should arise as to which choice should be made, otherwise the choice is made without hesitation.

The comparison between species

The comparison of happiness among individuals of the same species is simpler than between different species, since the brains of organisms of the same species have the same structure and the same neural modules. All human brains, for example, have structures, depending on circumstances, to feel pride, empathy, love, envy, etc., but we can not say the same of a turtle's brain. In the same species the region (s) corresponding to a given feeling, are located in the same region (s) of the brain. But this can change when species are distinct. For example, if we want to compare happiness between an alligator and a human being, we will need to calculate the "feeling" factor of FH, in an absolute way in both species. For this we must use the Jocaxian concept of feeling.[7]

The FH tells us that happiness is additive, that is, the happiness of each being must be added to that of others to form the happiness of the whole group. But the happiness of each being depends on the ability to feel of each individual brain. The ability to feel of each individual brain, in turn, must depend on the brain's complexity, the average frequency of synapses and the number of neurons it contains. Although the quantization of feeling is not fully developed (see "Consciousness and Feeling, according to Jocax"[7]), we can see that, by the Jocaxian definition of feeling, each individual neuron satisfies the minimum conditions that a subsystem of " feel "has. In the case of the neuron, it receives electro-chemical signals (synapses) through its dendrites (input signals) and analyzes them internally before firing, or not, a synapse through its axon. It may or may not trigger a signal in response. This will depend on the signals coming to you through your dendrites and your inner goal (trigger potential). Thus, by analyzing happiness only by the sum of the feeling of each individual neuron, and taking into account that we have more than 100 billion neurons, we can expect that the human brain's capacity to feel is millions of times higher than, say, an insect that must have only a few thousand neurons. But this calculation, though of an order of magnitude of the comparisons between species, is still gross, for the brain capacity may be greater than the simple sum of each individual neuron. The "design" of neural networks, and their internal interconnections, can produce a much greater complexity than the sum of the complexity of each individual neuron. This is easy to understand when we think that a brain module, a neural subnet, can serve several other modules without the need for duplication of tasks and subnets.

I believe that if we consider the amount of synapses in the brain we will have a more accurate measure of the ability to sense since these synapses also reflect the use of the modules that are shared. In this case, the ability to sense of a brain with fewer neurons can be compensated for with a higher frequency of synapses. However, since we do not yet have a measure of sensation in terms of the level of complexity of the neural connections, we should, for the purpose of comparing feelings, use the number of synapses or the gross number of neurons involved, in case the synaptic frequencies of the brains are close. A hypothetical numerical example will help to clarify the subject: Suppose that the area responsible for burn pain in humans involves two billion synapses per second, and that the area responsible for that pain in a mouse involves eight million synapses per second 250 times less). Then, by this estimate, a human would suffer 250 times more than a mouse by burning pain in an area of the same proportion. In case the mean synaptic frequencies per neuron are close, we could use the number of neurons involved, since counting neurons is much simpler than counting synapses.

Cultural effects

Many readers will, rightly, ask where the influence of culture comes into this whole story. First, we must remember that feelings are instincts in their broad meaning: Mental algorithms passed from generation to generation through genes. Long-term culture can affect the selective pressure that a people undergo by altering, in this way, the genetic frequency of this people. On the other hand, cultures that go against the genetic imperative of their organisms do not survive for many generations, they are fads. Such anti-genetic cultures are not "evolutionarily stable." "Evolutionarily Stable" is an expression coined by Maynard Smith, a pioneering scientist in the study of the influence of genes on our behavior, indicating that in the long run, if something is not evolutionarily stable, it tends to disappear. In any case, if we want to know the influence of culture on happiness, we must remember that feelings are triggered according to the signals received, internally or externally, and then are analyzed according to

our internal goal and thus we will have the key to the answer. The internal goal of every organism that has evolved Darwinianly is genetic perpetuation. But genetic perpetuation is achieved in a myriad of ways and ways. Some of these forms can be modeled by local culture and even by passing fads. Explain: Suppose, for example, that under the influence of some fashion, such as walking with a certain haircut, or sporting a tacape with "that" wood, is considered fashion, something cool, fashionable. This means that in this local culture achieving this goal will cause its bearer to be considered, as a minimum: 1-Able to "pay" for a cut or object like this, and therefore with some extra survivability. 2. A social individual, observant, not alienated, "plugged" in the events of his local world. 3- Someone who wants to participate and be well-liked by your group and be integrated into your society. This implies that, regardless of the season or whatever the fad, the feelings of searching for status are activated, since such attributes tend to be beneficial to the bearer. The object of desire may change depending on the season and local culture, from a tacape lined with snake skin to a modern digital camera phone, but the feelings and genetic motifs associated with that culture remain the same.

We can then conclude that the internal goal of the organism can be modulated by the cultural goal. If the cultural goal is not "evolutionarily stable," the tendency is that it will not last long in terms of long-term culture, and more than that, if the goal is against the "perpetuating gene" imperative of the organism, also contribute to a fall in the average happiness of his people before finally disappearing.

I believe this is the case of the idiom I called "vm2f" ("virus-meme-of-two-children"). The "vm2f" makes its bearer, regardless of the income of the couple, do not want under any circumstances to have more than two children. To have more than two children, according to this fad, is considered something outdated, archaic, obsolete, outmoded, "poor thing", people without culture. Such a modism, besides not being evolutionarily stable, since it induces a birth rate below the replacement rate (2.1 children per couple), induces a loss of happiness. I argue that a statistical survey may show that the happiness of the family falls with the fall in the number of children of the couple, as evidenced by statistics relating divorce and number of children.[9] For those who are worried, and rightly so, with the population explosion, I suggest reading "Gens and Birth Control"[8]

Future happiness

The Integral of happiness can also be calculated in the future. This is important so that we can evaluate the outcome of a possible action in terms of happiness. In fact, our brains do it all the time. When we fail to go to the beach, for example, and with that also to obtain an immediate increase in our happiness, instead we spend the afternoon studying for the entrance exam, we are making a future evaluation of our happiness: In our evaluation , we think that getting into a good college will help us to get a good job that, in turn, will guarantee us a dose of happiness much greater than the first option, short term, would give us: to go to the beach have fun, not study and, most likely, get a bad job for the rest of our lives.

Strictly speaking, we should use the probability that an "e" event occurs multiplied by its associated value if we want to estimate the average value relative to that event. Thus, to estimate the average happiness associated with an event (e) in the future we use: Happiness (e) = Integral {Probability (t, e) * sentiment (t, e)} dt. In this way, the evaluation of future happiness is more correct. In the case of our example, studying or going to the beach, we should also consider that if our chance to go to college is almost zero, even if we studied hard, it would not be worth losing that Sun afternoon, so we could decide, maybe wisely, in this case, go to the beach.

The expectation of future happiness, in the form of hope, is also a form of pleasure that influences short-term happiness. The expectation of a pleasure in the future, even if in practice it is totally unfeasible, can make us feel as if we are on the path to our inner goal, and thus bear with more firmness the hardships we have to go through in order to achieve it. This strategy, of appealing to hope (which actually has zero probability), is widely used by religions to achieve the obedience of their believers, and of course also their tithes.

The problem of death

Many fear death, they horrify death, but they do not understand death. If we were asked "What is the problem of death?", We would get many answers, but hardly the correct answer. The problem of death is not in the pain it causes to the dying one. Many people die without pain and others have the greatest pain possible without however dying. The problem of death is not in the fear of the unknown, where we "go" after death, because most people have some religion that promise them a comfortable place in the beyond and yet they fear death. An evolutionary approach, saying that we fear death because those who did not fear died without leaving these genes brave to the next generations, is valid, but still does not say everything. The main problem of death is happiness * left * to be felt. From the moment we die our personal contribution to happiness is zero. Without the "feel" there is no happiness. For this reason we are more outraged when a young man dies than an old man. If the average happiness of a human being, for example, 80 years is 100 Jx, a child who lived only 10 Jx of happiness would not enjoy happiness, depending on his age, 70 Jx, whereas one old would cease to enjoy, depending on their age, for example, only 5 Jx of happiness. The loss of happiness of a child, in this example, is therefore 14 times greater than that of an elderly person. Thus, the main problem of death is happiness is no longer felt.

Happiness and genes

In our pragmatic analysis, we could deduce that feelings are intrinsically related to the evolutionary past of organisms. Since organisms are products of natural selection, and natural selection preserves genes rather than organisms, we conclude that the feelings are directly related to the actions that directed the organism in its (instinctive) quest for its genetic perpetuation.

However, happiness, in its definition, is a concept that is independent of the physical structure of the organism. The link between happiness and genes is due to the Darwinian evolution of feelings and not an intrinsic property of happiness. Possible situations in which there is an increase of happiness to the detriment of genetic perpetuation and also the opposite. This can occur in very peculiar and artificial situations. For example, suppose that a "matrixian" machine of happiness is invented in which the individual can be "plugged" into it by, for example, electrodes in regions of pleasure of his brain. And the machine would be in charge of maximizing the happiness of the organism without it having to move a single muscle. He could be hooked up to feeding pipes and spend the rest of his life being fed and living in his private and illusory paradise. Note that in this example we maximize the happiness of the individual to the detriment of his gene-perpetuation, since from the point of view of his genes this situation and death would be similar. If you were invited to enter into this "matrixian" machine of happiness, and live the rest of life in this illusory paradise, would you accept it?

Model validation

This model, of how the brain compares feelings to make decisions, must be validated empirically, and if it does not correspond to the reality of the neural system, it must be modified and replaced.

However, whatever the model, this does not change the FF concept, for the fact is that the brain necessarily needs to evaluate and compare the different types of feelings that are perceived so that it can make its decisions. The main function of the brain is to make choices and choices are made from what is felt.

The "scientific-meta-ethics"(SME)

The Scientific-Meta-Ethics is the union of an extension of classical Utilitarianism with the Jocaxian formula of happiness (FH). The only postulate of the SME is:

"The most just and most ethical action is that which provides the greatest increase in the happiness of sentient beings when evaluated for the longest possible period of time".

The ideal evaluation of a given action would therefore be the one that would take into account the consequences of this action on the happiness of all beings capable of feeling throughout the Universe and, furthermore, that this evaluation considered the longest possible period of time.

Of course, we still have no means of evaluating the consequences of an action begun here on Earth for any beings outside it. However, we should always make the evaluation of happiness in the most comprehensive way possible, in order to cover as many beings as possible. Thus, in space: It is fairer to consider the happiness of the whole planet than the happiness of a single country, better to consider the happiness of a country than just that of a city, better consider the happiness of a city than that of a neighborhood and so on. In time: It is fairer to consider happiness for a century than for a year, better to consider happiness for a year than happiness for a month, more valid calculation of happiness for a month than for a day, and better one day than one second, and so on. Of Sentient Organisms: It is fairer to consider the happiness of all beings than only of mammals, it is more correct to consider the happiness of mammals than only of humans; however, it is more correct to consider the happiness of all humans than just one subset of them, and so on.

The right of animals

We may ask ourselves the "why" of considering the happiness of all beings capable of feeling and not restrict ourselves only to human beings. If the SME is going to have implications in justice and law, should a rat have as much right as a human being? Should we be punished for killing a cockroach?

The reason we consider the happiness of all sentient beings is none other than that this is the postulate of the SME. The SME was defined in this way, it is a fundamental principle. However, it need not be so, we could be selfish and consider the maximization of the happiness of our own species. But of course, if we ever hit with aliens and intelligent beings we would have problems. Should we remain in our "specular selfishness" to treat them as beings without rights? What if they decided to do the same to us? Could we plead what? What if we were much less intelligent than them? Would we think it fair that we too should be treated as we treat our own cattle? Confined in ghettos and later slaughtered and eaten? Would we have some morals to claim a more dignified treatment?

Although the happiness of beings of other species should be considered in the SME, we can not say, however, that beings of different species should have the same rights. This is for two reasons: 1 - The ability to feel of beings of different species are, in general, also different and 2 - The consequences in the FH of species with greater intelligence, in a very long term, are devastating for the total happiness. Let's look at question 1 through a hypothetical example of happiness: The happiness of the cockroach.

The happiness of cockroach

To understand how the capacity to feel can be determinant on the right, according to the SME, we are going to make a sketch of calculation of happiness in a hypothetical situation. Consider a housewife who has horror of cockroaches and suddenly a cockroach appears in her kitchen. For simplicity we will not consider such insects to carry germs of disease and bring even more unhappiness than the disgust (or fear) it causes to the fearful housewife. Let's then consider the simple disgust of the housewife over the insect and measure happiness in case the housewife does not kill the cockroach and in case she kills her. We will use the concepts of the measure of happiness in relation to other species seen in item 5.11 ("The Comparison between species") where we should use the frequency of synapses, or to simplify even more, the number of neurons involved in the calculation of happiness.

Let's simplify the calculation a lot and assume that the average degree of happiness of each neuron (mean number of synapses) of both the human being and the cockroach is the same. Let us suppose that the average degree of happiness of a human being, with 100 billion neurons, who lives 80 years, is 100 Jx. As a consequence, the average happiness, per second, of a single neuron will be 4E-19 (= 0.0000000000000000004) Jx / s. If a cockroach has a life span of 100 days and has 1000 neurons, its average happiness will be 1000 * 100 * 24 * 60 * 60 * 4.0E-19 Jx = 3E-9 (= 0.000000003) Jx. Suppose now that the housewife's disgust toward the cockroach is the opposite of her average happiness (= -4.0E-8 Jx / s). So, in just a single minute in the presence of the cockroach, the happiness of the housewife would decline from 2E-6 Jx which would be equivalent to the lifetime happiness of 792 cockroaches! That is, a minute of human disgust for cockroaches does not make up for the happiness of cockroach life, and in this case, the death of the cockroach would be fully justified. Does anyone know of any other scientific way of justifying the damnation of a cockroach to death by a flip-flop hit? ☺

The influence of intelligence

We have said previously that not all species should have the same rights because intelligence can make all the difference in global happiness in the very long run, and even in the short term. Suppose two organisms of two different species have the same capacity to feel and the same kinds of feelings. Consider that one of these species, for example the first, has a higher intelligence than the second species. This means that this first species would have more mental resources to solve the problems of how to satisfy their feelings and thus greater effectiveness in their contribution to the overall happiness of the group. The measure of happiness of the second species, on the other hand, should, in the same time span, be smaller since it would have more difficulties in solving its problems and thus a lesser degree of happiness in the same period of time.

However, intelligence can function as a "double-edged sword": just as it can accelerate the rate of happiness it can also act in the opposite direction by quickly degrading happiness, for example by deteriorating the environment, by exterminating sensitive species by compromising, in this way, seriously happiness, not only of its own species, but also of all the other species that inhabit its environment. For this reason it is not surprising that there are now so many human groups that propose the extermination of the human species: If intelligence is not used to promote happiness in the long run, even

when its participants are no longer alive, with future happiness, then perhaps it would be better for the species to extinguish, since happiness would be greater without it.

However, the biggest difference, the one that makes intelligence determinant in total happiness and, therefore, having more rights over others, is its ability to avoid a planetary catacombe. Only high intelligence species may have enough technology to prevent a large meteorite from destroying the planet, or to build ships capable of going to other planets when our star comes to an end, and that will happen! For this reason we must, nevertheless, forget our own extermination and bet on the survival of life.

One way to consider the influence of intelligence in the comparison of happiness between species would be to consider the sum of all brain neurons in the computation of happiness and not just those responsible for feelings. For the neuronal mass, when it does not participate in the feeling, must participate in other SMEhanisms of aid to the solution of generative-perpetuative problems. In this way, entering as a multiplicative factor in the feeling function, its count would be automatically incorporated.

Among beings of the same species we should also consider the effect of intelligence, in terms of the long term, on the benefits to happiness that more intelligent people can make. If a "Darwin" or "Newton" can contribute to happiness, and even to the salvation of the planet, much more than a simple worker or a criminal, they should also be more valuable to society and have more rights, including right life. It would not be fair, for example, in terms of happiness, to let a genius of Darwin's carat die for lack of an organ just because there is a person in front of you in the queue of organs. To save the life of one who contributes greatly to the happiness of mankind should be a priority over "ordinary" people. Would anyone disagree with that?

The SME and justice

The objective of the SME is to make a scientific normalization, not only of ethics and morals, but also of all areas of knowledge that relate to them as Justice, Law and Politics. We can only solve the many complicated ethical problems that, without an objective ethical basis, are completely at the mercy of religious ideology or of the personal criteria of values of its judges. I often say that "SME will be for Justice and Law as Newton's laws are for the SMEhanics of Physics".

The SME can be "dangerous" for politicians who like to use public funds at their pleasure. With SME, political decisions can be evaluated in terms of happiness and thus be scientifically challenged. If we can prove that a political action produces inferior results, in terms of happiness, in relation to another alternative action, then there would be no reason for the former to be implemented to the detriment of the latter. Such an approach "engages", in a way, the current arbitrariness in relation to the manipulation of public funds by the politicians.

Usage examples

Only with the basic concepts of the Formula of Happiness and Utilitarianism We can use SME to solve many complex problems without making any complicated calculations. As an illustration, we will see some examples of its use:

"Terry Schiavo" and Euthanasia

A large part of the world was involved in 2005 with Terry Schiavo's problem. Terry was a pretty young woman who had a large part of her brain destroyed, so she was in a vegetative state. The girl's ex-husband wanted to turn off the gadgets that kept her alive while her parents opposed to it, and wanted her to stay alive. The media exposed the problem and public opinion worldwide divided on the question: Should the gadgets turned off or not?

We will address this problem using the SME. The SME tells us that we must judge the ethics of an action by evaluating the happiness provided by this action in the maximum of time and for the greatest number of sentient beings that we can evaluate. So if there were no expenses - which could be used to further increase the happiness of others - in keeping the girl in a coma, then we should let her live since her parents would be happier that way. But the daily cost involved in keeping her alive in an ICU is high. These resources could be saved from malnutrition and death, perhaps, dozens of very poor children whose mothers hardly have the money to support themselves. That is, it would be immoral, in terms of SME, to keep a single person in a vegetative state, occupying an expensive public hospital bed, just because it would not sadden their parents, while at the same daily cost, they certainly die from a lack of resources, such as a simple antibiotic or a box of whey for dehydration. At first glance it seems that the devices should be turned off. But if we use SME more carefully, we will realize that this is false. In this hasty analysis we are forgetting to evaluate the actual number of people involved in the action. Whether we think it fair or not, people are saddened to know that a young woman will be left to die of starvation because she can no longer survive without the devices. Literally, hundreds of millions of people, who followed the case, would be a little sadder in their lives, decreasing everyone's happiness if the doctors turned off the appliances. This huge number of people who would grieve a little bit over Terry's death, multiplied by this decrease in happiness of each one, would certainly cause a greater decrease in the total happiness of the planet than if they did not turn off the machines (unless the media also bring the children to the brink of death who would be saved with these resources). So, because of the media, it should stay alive, and the handsets should stay connected. That is, the mere fact that the media has published the problem has made its solution completely change. For a more detailed analysis I suggest reading "Terry Schiavo and M.E.C."[10]

To be or not to be vegetarian?

Another problem that can be studied objectively by the SME is the question of being ethical or not eating animal flesh. Traditional thinking professes that eating animal flesh implies in the slaughter and death of animals that are eaten. And that to adopt the vegetarian menu would be a posture of not contributing with these deaths, and, therefore, more ethical. Is this analysis correct? Is "vegetarianism" the most ethical form of food? A careful analysis of the happiness study of the organisms involved shows that this conclusion is rushed (for details see "Meat Consumption and Ethics"[11]). Briefly, what happens, disregarding, for simplicity, our pleasure in eating meat, is that if the world were to move towards "vegetarianism," there would be less and less need for the raising of livestock, chickens, swine, etc. Then there should be a drastic drop in the population of these beings, for no one would "adopt" them and keep them alive and fed only to keep them alive and happy. With the fall of this population of animals, happiness would diminish if, and only if, in their lives, before slaughter, their happiness was sufficiently great: If these animals were treated well and had a reasonably happy life. Otherwise, if theirs were very suffering then the decrease of their population would increase happiness and "vegetarianism" would be beneficial and the best ethical option. So the solution to this question depends on the average happiness in which the herds have until the moment they are slaughtered, that is, how well they are treated in life in order to compensate for their deaths.

"Stem Cells" and human embryos

One of the central problems of our pre-ECM era, in terms of bioethics, is the problem of stem cells from human embryos. The so-called "stem cells" are cells from the early stages of the cell division

of an embryo. They are special cells because they can transform into any type of human tissue: from complex neurons and cardiac muscles to nails and hair. It has the potential to pull people out of wheelchairs, rework their marrows, as well as cure previously irreversible cardiac ailments, reworking parts of diseased hearts.

The problem with these cells is that they need to be extracted from human embryos that need to be destroyed. Opinions are divided: Some claim that using human embryos in scientific research is unethical because if a human embryo is a human life then killing them would be a crime, others that the embryo cannot be considered a living being because they do not have a system nervous or capable of feeling or even that a human being only has right after it is born. At the time I write this text (2007) it seems to me that the question was centered on the question of time elapsed, from the moment of fertilization, so that an embryo can be considered a human being. In this "solution", from a certain time "X", counted from the fertilization of the embryo, it would be considered criminal to use it for scientific experiments, before this time "X", and the embryo could be used for research.

The first error of the people who argue for human life, as if it were a kind of taboo of an inviolable "sacredness" (and which in general are the same ones that reject utilitarianism for some dogmatic ethics, as for example, religious ethics), can be easily refuted by a hypothetical mental experiment: Suppose a crazy "man-bomb" makes you, or anyone else, have to choose between two options: Either you pull a trigger and kill a innocent person, or else, if he does not, he pushes another button and explodes a school killing 300 children. What would you choose? Would you kill the person or, by default, choose to have 300 children killed? Non-utilitarian ethics have great difficulties in dealing with such problems. Utilitarianism solves this with ease: it squeezes the trigger and avoids the greater evil, saving 300 innocent children from certain death. The omission option is at least an idiotic solution. (Which option would you, reader, choose?) Then comes the question: Where did the "sacredness" of human life end up if you yourself just killed an innocent person? The answer to the use of embryos to provide "stem cells" for research is the same as our hypothetical example: the sacrifice of some embryos may be the lesser evil in relation to the harm that would entail to the thousands or perhaps millions of people who could not benefit from a cure and that without this cure they would have to spend the rest of their lives in wheelchairs or would surely die in a row of transplants because science can not progress.

But calm down! Are not we forgetting nothing? Yes! Again we forget to compute the lost happiness of the embryos. Embryos could be implanted in utero and live if they were not sacrificed for research. And thus they would contribute to total happiness perhaps even more than if they were used and killed. But this reasoning embodies a fundamental fallacy: The embryos that would be destined for research would be those left in the breeding clinics and that sooner or later would fatally be discarded and destroyed. They would never generate a human being because they were "leftovers" from "in-vitro" fertilizations to solve problems of couples who could not have children. In this case, there would be no logical reason why they should not be used for the sake of happiness.

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Conflcits of interest

The author declares there is no conflcit of interest.

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