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## SCIENCES AND VALUES

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### ABSTRAK

Pemisahan antara nilai-nilai moral dan sains adalah suatu ilusi yang muncul dari pandangan yang tidak tepat bahwa hanya agama yang dapat menghasilkan moralitas. Dengan keliru dikatakan bahwa sains kena-mengena hanya dengan fakta-fakta dan teori-teori, bukan dengan nilai-nilai; dan hanya agama-agama yang dapat menangani nilai-nilai. Kita tahu bahwa moyang kita yang hidup dalam zaman kuno untuk waktu yang sangat panjang dapat hidup bermoral kendatipun mereka tidak punya agama-agama. Dalam zaman modern ini kita, dengan demikian, dapat juga hidup bahkan dengan lebih bermoral lagi sekalipun tanpa agama-agama. Dengan menggunakan berbagai sains modern, pikiran, berbagai pengalaman dalam kehidupan kita, dan intuisi, kita juga dapat merancangbangun pandangan-pandangan moral sekular mengenai segala sesuatu untuk memandu kita dalam kehidupan kita yang kompleks.

***Kata-kata Kunci: moralitas, manusia, non-manusia, agama, etika sekuler, welas asih, evolusi, pendekatan-pendekatan interdisipliner, intuisi, nalar, sains.***

### ABSTRACT

The separation of moral values and sciences is an illusion resulting from the incorrect view that only religions can produce morality. It is said wrongly that sciences concern only with facts and theories, not with values; only religions are able to deal with values. We know that ancient humans for a very long time were able to live morally even though they had no religions. We in the modern era are therefore able too even more. Using our modern sciences, mind, life experiences, and intuition, we too can construct secular moral views regarding everything to direct us in our complex lives.

***Keywords: human morality, non-human morality, religion, secular ethics, compassion, evolution, interdisciplinary approaches, intuition, reason, sciences.***

## Introduction

Human beings first appeared on Earth 300.000 to 400.000 years ago,<sup>1</sup> much older than the birth of the oldest (natural) religion so far as science can show. According to the latest archaeological findings, the oldest religion was constructed 70.000 years ago among Basarwa people in Botswana, Ngamiland, South Africa.<sup>2</sup>

If ancient humans could live for such a long time (230.000 to 330.000 years) without having any religions, we can reasonably assume that they had secular morality which gave them directions in controlling their life. Without morality that rules, any societies across space and time cannot live and survive for a long time.

But, what are the sources for the secular morality that ancient humans built, developed and applied? Ancient humans used, of course, their mind, knowledge, life experiences, and intuition, to produce secular ethics sufficient to regulate their simple life.

If ancient humans were able to live morally even though they had no religions, we in the modern era are able too even more. Using our modern sciences, mind, life experiences, and intuition, we too can construct secular moral views regarding everything to direct us in our complex lives.

Sciences help to construct secular ethics, i.e. ethics constructed not from religious texts but from scientific views of the good and the bad. But, can sciences give you moral views about everything in the world? Absolutely!

## An Illusion

The separation of moral values and sciences is an illusion resulting from the incorrect view that only religions can produce morality. It is said wrongly that sciences concern only with facts and theories, not with values; only religions are able to deal with values. Stephen Jay Gould ([1999] 2002) presents this view:

Science tries to document the factual character of the natural world, and to develop theories that coordinate and explain these facts. Religion, on the other hand, operates in the equally important, but utterly different, realm of human purposes, meanings, and values—subjects that the factual domain of science might illuminate, but can never resolve. Similarly, while scientists must operate with ethical principles, some specific to their practice, the validity of these principles can never be inferred from the factual discoveries of science. (4-5)

In *A Devil's Chaplain*, the evolutionary biologist Richard Dawkins (2004), in harmony with Gould, states (in his memo to Tony Blair) :

Science has no methods for deciding what is ethical.... Science cannot tell you whether abortion is wrong.... Science cannot tell you whether it is wrong to clone a whole human being.... Science cannot tell you whether stem cloning for 'spare parts' is wrong.... Science cannot tell you whether it is right to kill 'Mary' to save her conjoined twin 'Jodie'. (34)

1 The dating is determined on the basis of the archaeological findings of the mitochondrial DNA extracted from the fossil of a 400.000 year-old femur discovered in Spain in the cave called *Sima de los Huesos* (meaning: "Hole of Skeletons") (Meyer 2013). The review of this findings is written by Carl Zimmer (2013).

2 See the report by Vogt et al. (2014) concerning the Associate Professor Sheila Coulson and her team's discovery on mankind's oldest known ritual in Botswana.

Dawkins could be wrong if we consider the cases he presents circumstantially or contextually. Science can tell you, depending on the specific circumstances, whether abortion is right or wrong. Science can tell you, depending on the specific contexts, whether it is wrong or right to clone a whole human being. Science can tell you too, depending on the specific situations, whether stem cloning for 'spare parts' is right or wrong. Science can convince you too, depending on the specific circumstances, whether it is right or wrong to kill 'Mary' in order to save her conjoined twin 'Jodie'. I am going to argue for this positive or affirmative role of science in ethical realms.

The view of, e.g., Gould and Dawkins, is illusory. This illusion is to be removed from our modern consciousness once for all. In his recent book *The Moral Landscape: How Science Can Determine Human Values* the neuroscientist Sam Harris (2010) states that "the split between facts and values—and, therefore, between science and morality— is an illusion" (179). In *Braintrust: What Neuroscience Tells Us about Morality*, Patricia S. Churchland (2011) writes that "from the perspective of neuroscience and brain evolution, the routine rejection of scientific approaches to moral behavior based on David Hume's warning against deriving *ought* from *is* seems unfortunate, especially as the warning is limited to deductive inferences" (8). Nevertheless, in a positive acceptance of Hume's naturalism, she affirms that "naturalism... finds the root of morality in how we are, what we care about, and what matters to us—in our nature" (6).

Overall, Churchland (2011) employs the interdisciplinary approach to discover the root of moral values in the human life. She writes, "By drawing on converging new data from neuroscience, evolutionary biology, experimental psychology, and genetics, and

given a philosophical framework consistent with those data, we can now meaningfully approach the question of where values come from" (3). She concludes that "morality can be, and is, grounded in our biology, in our capacity for compassion and our ability to learn and figure things out" (200).

### Let's start with humans

Does science really concern with moral values? Yes, it does. I can argue for it via real examples which I can think about so far myself. To begin with, you should remember that moral values exist not in heaven that you are going to apply after death, but in this world, in the realities of our daily lives, and are therefore part of the natural realities explorable and analyzable by sciences. Let's start with humans.

How about a good man and a bad man? A good and kind man is not only a moral or ethical man, but also a real man, a factual man, in short *a fact* that is explorable, explainable, analyzable and distinguishable by science. A bad and evil man is not only an immoral man, but also a real man, a factual man, in short *a fact* that is explorable, explainable, analyzable and distinguishable by science too. Scientists, therefore, know what you exactly mean by a good and kind man and by a bad and evil man respectively. These two types of men are distinguishable by science, both social sciences and neurobiological science. Consequently, science does concern with moral values embedded in any facts it explores, explains, analyses, and distinguishes.

Another example will make it clearer. Suppose you have a tumor growing steadily in your brain. As scientists, your physicians know well not only about your growing tumor as a fact in your brain that makes you feel a terrible pain every day in your head; they too know well

about the consequences that will arise from the tumor to your behavior and personality. Very likely, the tumor will change your mental, making you gradually either a temperamental person or, at last, a psychopath. This final condition of your mental health is not only a psychological or biological problem, but also a *value problem* of your remaining life. Knowing that this condition is bad not only for your biology but also for your meaning of life, your physicians of course will try hard to cure you by removing the tumor from your brain with great care. The surgery and the meaning and value of your remaining life interact.

Don't forget that sciences that you have make you an intelligent, smart and thoughtful human being. Being intelligent, smart and thoughtful is a value, a priceless value, that sciences give to you.

### **The problem is not God**

It is clear then that science has many things to do with moral values. Yes, of course, religions give us moral values too; but these religious values were constructed long ago and become presently more and more irrelevant to the modern questions. Insofar as ancient religious moral values are still relevant to the modern era, they can be used with great cautions to rule and direct our lives. If ancient religious moral values are clearly irrelevant to the modern questions, we should not use them any longer to direct our lives. Whether God exists or not, is *not* the problem.

The real problem is *not* about God, but about ancient religious moral values our ancestors constructed that are not relevant any longer to the modern era. This problem should be solved intelligently, not foolishly. Modern questions, therefore, should be dealt with modern ways of thinking, living and behaving.

Making our lives meaningful and creatively responsive to the modern challenges is much more important than maintaining old religious moral values that are clearly irrelevant. I like what Arthur C. Clarke has said that "the greatest tragedy in mankind's entire history may be the hijacking of morality by religion" (Arthurclark.net. 2007-11). In order to know about the good and the bad, you, then, firstly should use your mind, not religious texts, to weigh and evaluate all the ethical options at your disposal.

### **Humans and Non-Humans**

Genetically considered, we have a natural cognitive capacity to know about moral values. As science has shown, mammals and other primates nearest to our own species have natural capacities to behave morally when dealing with their internal (or in-group) and external (or out-group) fellows (Bekoff and Pierce 2009; Bushwick 2013; Gray 2009; Jingzhi and Hare 2013; Proctor et al. 2013; TED 2012; Waal 2011). Humans received the neural capacity to think and behave morally partly from other primates preceding our own species in our evolutionary history (Rakhmat 2013, 219-56). In this regard, Churchland (2011) states that "that nonhuman mammals have social values is obvious; they care for juveniles, and sometimes mates, kin, and affiliates; they cooperate, they may punish, and they reconcile after conflict." She agrees that the social behavior of baboon and bonobo is much closer to our own (26).

This human cognitive capacity for choosing moral values can be called, if you wish, conscience that should be trained and educated to grow gradually to maturity, from childhood to elderliness. Concerning conscience, Churchland (2011) opines that its neurobiological basis "takes form during brain-gene-environment interactions as the child begins to live its

social life; it seems to be more like auditory imagination, aided by visual imagination of the consequences of a choice, generated by the brain as it exercises its problem-solving capacity, rather than like the pure pronouncements of brain-independent, metaphysically separate Platonic storehouse of moral knowledge" (192-193).

### Sciences and values

If we define morality as the correct and responsible way of acting and behaving in a certain reality of life, science can show you this way clearly. All sciences are intelligent human enterprises to understand, explain, theorize, control and deal with the realities of our lives and nature as a whole.

Because sciences focus to life realities and nature, they can know about the multiplicity of situations and conditions of life and nature. Scientists, then, using their sciences, five senses, critical mind, and technological instruments, can weigh everything to arrive at morality, at values, at knowledge about the good and the bad for our real lives.

From life experiences, past and present, we can learn a lot of things about moral values as these experiences are evaluated critically. Critical histories are the good teachers for us to know about the good and the bad for human lives, the Earth, and the future of our civilizations. We have the science of history as part of our college curriculum. This science offers us extremely valuable values of living and acting prudently in the present and for the better future.

Evolutionary science, starting with Charles Darwin (as well as Herbert Spencer), is one of the natural and biological sciences that very clearly shows the biological interconnectedness

and relatedness of all the organisms living on Earth due to the gradual and accumulative long biological evolution by "natural selection." If this "biological interconnectedness" is translated into the realm of values, it is correct to say that evolutionary science tells us that we humans and all the other organisms are siblings, though we humans and other primates have clearly different physiological and anatomical structures in comparison to other non-primate and non-animal organisms. Concerning humans, evolutionary science tells us that we humans are brothers and sisters irrespective of our different racial, ethnic, tribal, social and cultural backgrounds.

This "message of relationship" among all the organisms that evolutionary science offers us is one of the noble values that sciences can give us, especially in our currently divided and broken world. This message of relationship is therefore the message of reconciliation too. We should respond to this message of peace and brotherhood among all the organisms by loving all the animals, all the plants, and all the human beings, even the Earth as well.

I should nevertheless emphasize that the evolutionary science gives us the message of relationship—and thereby the message of reconciliation among all the organisms—only upon my personal "deep" reflection, given the fact that biological evolution *by natural selection* as such has no moral values altogether, even sometimes takes place in many cruel and harsh ways. Only at the "deep structure" of evolutionary languages can we find these moral messages. A deep structure is a structure that is freed from its actual and historical context, a structure that conveys deep philosophical meanings of any surface languages.

Seen from that deep-structure point of view, I cannot agree fully with Jerry A. Coyne

(2009) when he, in his book *Why Evolution Is True?*, writes this: "How can you derive meaning, purpose, or ethics from evolution? You can't. Evolution is simply a theory about a process and patterns of life's diversification, not a grand philosophical scheme about the meaning of life. It can't tell us what to do, or how we should behave.... Most of us do need meaning, purpose, and moral guidance in our lives. How do we find them if we accept that evolution is the real story of our origin? That question is outside the domain of science." Coyne underlines that "evolution is neither moral nor immoral." However he can still say this, "But evolution can still shed some light on whether our morality is constrained by our genetics. If our bodies are the product of evolution, what about our behavior? Do we carry the psychological baggage of our millions of years on the African savanna? If so, how far can we overcome it?" But most importantly, Coyne can find two values evolutionary science clearly offers us, that is, firstly, it liberates our mind so that we can realize that human beings may be only one small twig on the vast branching tree of evolution, nevertheless we are a special animal. And, secondly, it makes us proud of our nature as the only species that has figured out how we came to be, that has a brain complex enough given by natural selection to comprehend the laws that govern the universe (225, 233).

### **Artistic and aesthetic values**

We live not only in the realm of moral values. In life, we need various forms of art too, e.g., painting, drawing, sculpture, photography, architecture, music, poetry, theatre, performance, play, literature, symbolism, metaphor, dance, etc. They give us *artistic and aesthetic values*: beauty, charm, grandiosity, a

sense of transcendence, gratitude, consolation, amusement, pleasure, happiness, excitement, serenity, peace, tranquility, creative imagination, cognitive and affective drive, etc. These values are very important for our lives; they make our lives more meaningful, our happiness fulfilled, our motivation strengthened, our purpose in life broadened, our search of meaning completed, our feeling and emotion satisfied, our soul stimulated, our feeling of loneliness disappear, our sense of transcendence realized, our feeling of unity with all deepened. Of course arts should appeal to us first through our five senses; but that doesn't mean that an artwork, a painting for example, has to be gorgeous to be good and entertaining, but it must grab our eyes in an impressive way.

As we all already know, our universities have the faculty of arts and humanities or the faculty of arts and culture that runs artistic and aesthetic academic education for students to enable them to disseminate artistic and aesthetic values to our societies. Talent (1 %) and academic education (99 %) will eventually make them brilliant artists. It is no exaggeration to say that everyone in our societies is interested in some artistic and aesthetic works in various manners. Art is very important to Albert Einstein. In an interview (Viereck 1929), Einstein (Viereck 1929) expresses his own feeling beautifully, "If I were not a physicist, I would probably be a musician. I often think in music. I live my daydreams in music. I see my life in terms of music.... I cannot tell if I would have done any creative work of importance in music, but I do know that I get most joy in life out of my violin" (Quoted in iz quotes 2014). Friedrich Nietzsche ([1889] 1997) says, "Without music, life would be an error, a hardship, an exile" (vii). Pablo Picasso sees "the purpose of art is washing the dust of daily life off our souls"

(quoted in Brainy Quote 2014)

It is clear then that artistic and aesthetic sciences developed in our universities give us values of paramount importance for our lives generally. Ally Leung (2014) correctly states that “art can be a great source of pleasure in our lives,... even a passing acquaintance with art can enrich and deepen our understanding of the world around us.” It should however be noted, as Dustin Wax has (2014) reminded us, that some artists could go out of their way to inspire strong reactions ranging from awe and lust to anger and disgust. I nevertheless do hesitate to consider this as the bad side of the world of art, due to the fact that the value of any form of arts is partly dependent on our subjective perceptions.

### **Intuition**

Finally, we too could know about the good and the bad for our lives *intuitively*, that is, via instinctive knowledge appearing suddenly in our mind. Intuitive knowledge is not a magical knowledge, because it arises from certain workings of the neurons in our brains in response to our physical activities and experiences. About intuition, Albert Einstein writes, “A new idea comes suddenly and in a rather intuitive way, but intuition is nothing but the outcome of earlier intellectual experience” (Quoted in Isaacson [2007] 2008, 113).

Nevertheless, our intuitive know-ledge should be critically evaluated by our critical mind and sciences to make it positively usable for our lives and correctly lead our lives to the good. Why? Richard Carrier (2005) says that “intuition is very handy, but also quite fallible”, and he sees reason is superior to intuition because “while intuition can learn from its mistakes, reason can avoid them before they are ever made. And while intuition cannot tell

if it is correct, reason almost always can” (179-80). Given the fact that many ancient religious moral values are not relevant any longer to the modern era, we presently need to construct secular morality via several ways: our mind, sciences, life experiences past and present, and intuition.

### **Goodness and compassion**

Some people maintain that all moral decisions must be based on goodness alone to become good moral decisions. They would say that goodness is desirable in and of itself, and that they do good because they want to be good persons, or they want to create and embody the moral values and ideals they believe to be good (Carrier 2005, 297).

We however cannot use goodness as the only criterion to be applied when we should take moral decisions, because goodness is actually a cultural idea whose definition is broadly dependent on our religious and cultural assumptions. I am sure not everyone will agree with Nietzsche’s definition of the good; he writes, “What is good? Whatever augments the feeling of power, the will to power, power itself, in man” (Nietzsche [1918] 1924, 25).

Other people contend that moral decisions should be grounded solely on compassion to become responsible moral decisions. Arthur Schopenhauer (1903), for example, maintains that “it is this Compassion alone which is the real basis of all voluntary justice and all genuine loving-kindness. Only insofar as an action springs therefrom, has it moral value; and all conduct that proceeds from any other motive whatever has none” (97). His Holiness the Dalai Lama agrees with this when he states that “from our common experience of being born from a mother and basking in her care and attention, we learn the value of affection for others. This

gives rise to peace of mind. Similarly, we can teach people how to be happy on the basis of secular ethics, that a compassionate mind is useful and beneficial and entirely secular in nature" (His Holiness the 14<sup>th</sup> Dalai Lama of Tibet. 2014). Even though compassion is a precious human psychological capacity that generally makes our courses of action great and noble, it is nevertheless a cultural idea too whose definition is broadly determined by our cultural and religious assumptions. Consequently, we cannot entirely rely only on compassion when we should make moral decisions.

## Conclusion

It is obviously not easy for us presently, living in the multidimensional modern world, to take responsible moral decisions and to opt for virtuous values that together will make our lives and courses of action noble, as well as beneficial, meaningful and constructive for our fellow beings, other organisms, the Earth, and the universe as a whole. In the final analysis, to arrive at sound and accountable moral decisions, we consequently should apply critical interdisciplinary approaches instead of employing goodness or compassion or scriptural texts as the one and only criterion.

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