

Moral Philosophy and Modern Science: From Natural Law to Moral Capacity

Modern science provides a biological basis for human moral behavior and validates philosophical speculation

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Abstract

During the last decades evolutionary science has made significant progress in the elucidation of the process of human evolution and especially of human behavioral characteristics. These themes were traditionally subjects of inquiry in philosophy and theology. Already Darwin suggested an evolutionary and biological basis for moral sense or conscience, and answered Kant's question about the origin of the moral rules postulated by philosophers. This paper reviews the current status of such investigations by natural scientists, biologists and psychologists, and compares their models for explanation of human moral behavior with those postulated by philosophers. Today natural scientists postulate cooperation as the third element of evolutionary process after mutations and natural selection. They seem to fully confirm the intuition of philosophers. The thesis on the fundamental status of cooperation in the entire animal world leads to a belief concerning dialogue: dialogue, rooted in a sense in cooperation, is a primary men's capability, being emerged from the biological essence of humans. Thus the examination of cooperation reveals *inter alia* biological foundations of human moral behavior.

Introduction

Since time immemorial humans have been preoccupied with their own behavior and attitudes towards other humans, the rest of the animate world, and the surrounding environment.¹ In every culture we find the practical injunction for moral behavior expressed in the “Golden Rule,” a universal principle guiding human behavior. This rule is expressed in religious injunctions as well as in philosophical analyses wherever such attempts were made as is attested again by the history of philosophy.²

When answering the questions of how to live our lives and treat others, philosophers developed several theories such as hedonism, psychological egoism and altruism, ethical egoism, consequentialism and utilitarianism, deontological theory (Kant’s well-being theory), virtue ethical theory, contractarianism and social contract theory, *prima facie* duties theory, natural law theory.³ The natural law theory seems to be the most fundamental-going to the roots conditioning human behavior and all other philosophical speculations. The idea of a natural law in morality governing our behavior has a long history and was interpreted or understood in a variety of ways. Though it has limited value for a formulation of

¹ Joseph Campbell, *The Masks of God: Occidental Mythology*, (Penguin Books: Harmondsworth, U.K.; New York, USA, 1976). Joseph Campbell, *The Masks of God: Oriental Mythology*, (Penguin Books: Harmondsworth, U.K.; New York, USA, 1986). W.Y. Evans-Wentz, compiler and editor, *The Tibetan Book of the Dead*, (Oxford University Press: Oxford, UK, 1960). *The Texts of Taoism*, translated by Jmaes Legge, Part I, II, (Dover Publications, Inc. : New York, first published, 1962). James B. Pritchard, ed., *The Ancient Near East. Anthology of Texts and Pictures*, Vol. 1, 2, (Princeton University Press: Princeton, 1973). *Hindu Myths. A Sourcebook Translated from the Sanskrit*. With introduction by Wendy Doniger O’Flaherty, (Harmondsworth, UK: Penguin Books, 1975). *The Rig Veda*, translated and annotated by Wendy Doniger O’Flaherty, (Harmondsworth, UK: Penguin Books, 1984). *The Upanishads*, translated by F. Max Müller, Part 1, 2, (Dover Publications: New York, first published 1962). Sarvepalli Radhakrishnan, *Indian Philosophy*, Vol. 1, 2 (first publication, George Allen and Unwin Ltd, 1931). James P. Allen, translator and introduction, *The Ancient Egyptian Pyramid Texts*, (Society of Biblical Literature: Atlanta, GA, 2005). Wing-Tsit Chan, translated and compiled, *Source Book in Chinese Philosophy*, (Princeton University Press: Princeton, 1963). Hammurabi, *The Oldest Code of Law in the World. The Code of Law Promulgated by Hammurabi, King of Babylon B.C. 2285-2242* (Hard Press, 2006). W.W. Davies, *The Codes of Hammurabi and Moses with Copious Comments and, Index, and Bible References* (Book Jungle, 2007).

² Leonard Swidler, “Toward a Universal Declaration of a Global Ethic,” in *Dialogue and Humanism, The Universalist Journal*, Vol. IV, No. 4, 1994, pp. 51-64.

³ Russ Shafer Landau, *The Fundamentals of Ethics*, (New York, Oxford: Oxford University Press, 2010). Henry Sidgwick, *The Methods of Ethics* (London: Macmillan and Co., 1901; first edition 1877).

detailed practical maxims to conduct human behavior, nevertheless, it is still used by contemporary religious leaders to argue in defense of particular moral assumptions based on their theological worldview. It has, however, a great historical value for the evaluation of validity of secular philosophical intuition. For modern science, starting with Darwin and his insights into evolution of man, has reached a level of sophistication and precision whereby is able to explain the naturalistic basis for the intuition of philosophers.⁴ Consequently, the concept of moral law acquires a new meaning and is interpreted as the natural capacity for the moral behavior that forms the foundation of the behavior of living things, especially higher animals and humans.

Early Societies: The Rule of Law

In all early societies the rules governing them were customs based on traditional and conventional beliefs of what was right or true. Subsequently, they were drawn up and codified as obligatory norms backed by the authority of the state or ruler. Thus the rules of the political society mirrored the moral sensitivity of people who formed it. In primitive societies there was no difference between the moral rules expressed in customs and the laws established in codified norms.⁵ Such a situation presupposed the existence of an active designer or giver of these laws, and as long as theistic religion was the governing force this designer was god or divinity.^{6,7}

Sophists and the *Nomos* –*Physis* Antithesis in the Fifth Century

This outlook was changed in the first half of the fifth century B.C.E. when social and political changes as well as new ideas about the external world developed by the Pre-Socratic philosophers-scientists led to the rise of intellectual ferment, the

⁴ R. Paul Thompson, "An Evolutionary Account of Evil." In Michael Ruse, ed., *Philosophy after Darwin. Classic and Contemporary Readings* (Princeton and Oxford: Princeton University Press, 2009). Pp. 533-538.

⁵ Herbert Lionel Adolphus Hart, *Law, Liberty and Morality* (Stanford: Stanford University Press, 1963). Adam Krokiewicz, *Moralność Homera i Etyka Hezjoda* (Warszawa: Instytut Wydawniczy PAX, 1959). Adam Krokiewicz, *Etyka Demokryta i Hedonizm Arystyda* (Warszawa: Instytut Wydawniczy PAX, 1960).

⁶ Heraclitus, *The Cosmic Fragments*. Edited with an introduction and commentary by G. S. Kirk (Cambridge: Cambridge University Press, 1954). fr. 114.

⁷ Hesiod, *The Homeric Hymns and Homeric*, with an English translation and by Hugh G. Evelyn-White (Cambridge, MA: Harvard University Press, 1982), pp. 276-284.

age of the ancient Enlightenment.⁸ Doubts introduced by the Pre-Socratic philosophers about the role of divinity in the natural world led to its replacement by natural necessity as cause and introduction of relativity to social, political, and ethical conceptions.⁹

The Sophists recognized the existence of the unwritten and necessary natural moral law,¹⁰ though considered as originating from gods. They designated an eternal moral principle, universally valid and overruling the positive laws of men. Its conception is well described in Sophocles's *Antigone* or in Euripides's *Hecub*. However, the popular beliefs in gods became undermined by speculation of the naturalists and satirical writers like Aristophanes.

Plato (427-347 B.C.E.) rejected the idea that morals and moral law are changing.¹¹ He refers us to the unchanging reality, the reality of the Forms (*eidos*), which is accessible only to reason and of which human societies are largely ignorant. Human behavior in societies is not only subject to the rules established by men in societies, but also to the universal law which is unwritten and to which even gods are subject.¹²

Aristotle: Changing Nature and Man as a Rational Animal

⁸ Jürgen Habermas, contemporary German philosopher calls this age an Axial Age.

⁹ The words Sophist (*sophistes*) derives from the Greek *sophos* (skilled, wise, clever, learned, subtle, ingenious), *sophia* (skill, cleverness, wisdom, learning), *sophizomai* (practice an art, play tricks, devise skillfully, speculate). W. K. C. Guthrie, *The Sophists*, Cambridge UK: Cambridge University Press, 1971, reprint 1987), pp. 35-54. The texts of preserved fragments of the Sophists' writings are available in a bilingual collection: *Sofisti. Testimonianze e frammenti. Testo greco a fronte*. A cura di Mario Untersteiner con la collaborazione di Antonio Battagazzore. Introduzione di Giovanni Reale, indici di Vincenzo Cicero, (Milano: Bompiani, 2009).

¹⁰ For example Antiphon in Jan Legowicz, *Filozofia Starożytna Grecji i Rzymu*, (Warszawa: Państwowe Wydawnictwo Naukowe, 1968), p. 123-124.

¹¹ Plato, *The Republic, Parmenides*, in *The Republic and Other Works*, translated by B. Jowett, (New York: Anchor Book, 1973). Plato, *Complete Works*. Edited with Introduction and Notes, by John M. Cooper. Associate Editor D.S. Hutchinson, (Indianapolis/Cambridge: Hackett Publishing Company, 1997).

¹² Famous dialogue from *Euthyphro* : "Euthyphro – Yes, I should say that what all the gods love is pious and holy, and the opposite which they all hate, impious. Socrates – Ought we to inquire into the truth of this, Euthyphro, or simply to accept the mere statement on our own authority and that of others? Euthyphro - We should inquire; and I believe that the statement will stand the test of inquiry. Socrates – That, my good friend, we shall know better in a little while. The point which I should first wish to understand is whether the pious or holy is beloved by the gods because it is holy, or holy because it is beloved by the gods." Plato, *Euthyphro* in *The Republic and Other Works*, *op. cit.*, p. 435.

Next to dwell on the topic of the natural law was Aristotle (384-322 B.C.E.), who distinguished in his *Nicomachean Ethics* between conventional or legal justice, and natural justice. However, they are not unchangeable.¹³

Aristotle could arrive at such a conclusion since he viewed nature from the biological perspective of observing natural phenomena. Biological changes are natural because they derive from the inner working of natural reality, from its latent principles.

If such a view is correct, the question now arises what is human nature, what is human characteristic or human function and the principle that makes us humans? After a lengthy discussion and comparison with other forms of life, Aristotle states that the proper nature of man is “an active life of the rational element.” And he differentiates between “activity” directed by reason and mere passive “possession” of reason:

The rational element has two parts: one is rational in that that it obeys the rule of reason, the other in that it possesses and conceives rational rules. Since the expression “life of the rational element” also can be used in two senses, we must make it clear that we mean a life determined by the activity, as opposed to the mere possession, of the rational element. For the activity, it seems, has a greater claim to the function of man ... the good of man is an activity of the soul in conformity with excellence or virtue, and if there are several virtues, in conformity with the best and most complete.¹⁴

The Stoic Philosophy

By stating that reason and rationality is the distinctive human characteristic, Aristotle set the foundations for formulations of the natural law as governing the world and humans, which was postulated by the Stoics and explicitly formulated by Cicero. The Stoic philosophy was the most important and influential development in Hellenistic philosophy, and it affected Christian writers and their

¹³ Aristotle, *Nicomachean Ethics*, translated, with introduction and notes by Martin Ostwald, (New York, London: Macmillan Publishing Company, 1962), Bk V. 7.

¹⁴ Aristotle, *Nicomachean Ethics*, *op. cit.*, Bk I.7.

moral thinking as well as many philosophers.¹⁵ It was revived in the deism and naturalism of the Enlightenment and continues to affect modern thinking as well.¹⁶

The Stoics were the first philosophers who maintained systematically that all things in the world are necessarily interrelated: "from everything that happens something else follows depending on it by necessity."¹⁷ Chance for them was simply a name for undiscovered causes.¹⁸ This idea of interrelationship had deep significance for the Stoics since it also included a moral and psychological sense of relating to one's self, society, and the world. To be a happy and good man meant for the Stoics to be related to the universe, "to feel at home in the universe," and to other human beings in a manner according to reason. Marcus Aurelius wrote: "Neither can I be angry with my brother or fall foul of him; for he and I were born to work together...,"¹⁹ and, "The chief good of a rational being is fellowship with his neighbors – for it has been made clear long ago that fellowship is the purpose behind our creation."²⁰

We find this Stoic principle repeated almost verbatim by Jürgen Habermas, modern German influential philosopher, as the only and sufficient justification for the morality and ethics. He develops it into his "moral principle of universalizability," whereby an individual is integrated into a social order and his moral obligation arises from the process of socialization. Before Habermas, Immanuel Kant developed the same principle into his logical maxim of "categorical imperative."²¹

¹⁵ Lawrence C. Becker, *A New Stoicism* (Princeton, NJ: Princeton University Press, 1998).

¹⁶ It was founded by Zeno of Citium (333-262 B.C.E.) and developed by his successors Cleanthes (303-233 B.C.E.) and Chrysippus (b. ca 280 -d. ca 208/4 B.C.E.). *Stoicorum Veterum Fragmenta* collegit Ioannes Ab Arnim, (Stuttgartiae: in Aedibus B.G. Teubneri, MCMLXIV), Vol. 1-4, (abbreviated as SVF). Italian edition with translation of the *Fragmenta: Gli Stoici. Opere e Testimonianze* a cura di Margherita Isnardi Parente, Vol. 1-2. (Milano: TEA, 1994). A. A. Long, *Hellenistic Philosophy. Stoics, Epicureans, Sceptics* (Berkeley: University of California Press, 1986), second edition.

¹⁷ SVF, II. 945.

¹⁸ SVF, II. 67.

¹⁹ Marcus Aurelius, *Meditations*, translated by Gregory Hayes (New York : Modern Library, 2002), II.1.

²⁰ Marcus Aurelius, *op. cit.*, V.16.

²¹ Jürgen Habermas, *Moral Consciousness and Communicative Action*, translated by Christian Lenhardt and Shierry Weber Nicholsen, (Cambridge, Mass: The MIT Press, 1990). Immanuel

Individualism was antithetical to Stoicism. Since all things are interconnected they have one universal cause that was "creative reason" or the *logos*, which is the indwelling cause of all things.²² This model was applied to human action²³ in which we have to distinguish the external stimulus from the mind's response. The stimulus causes an impression which presents the mind with a possible course of action. It is up to the man how he is to respond.²⁴ A deliberate act is thus a combination of an impression and an internal response exactly as Aristotle would define it.²⁵ The Stoics and Aristotle did not look for a criterion of voluntary action as in "being free to act otherwise."²⁶ Thus the character of an individual was the general cause of one's actions that was a result of heredity and environment.²⁷ Moral corruption was traced by the Stoics to persuasiveness of external affairs and communication with bad acquaintances.²⁸ In the last analysis, the *logos* was the determining factor since it was all-pervasive. An individual's *logos*, assuming the particular identity, is the real self of an individual. Its *logos* is the self-determining factor. Thus the Stoic philosophy of nature provided a rational explanation for all things in terms of the intelligent activity of a single entity that is coextensive with the universe.

1. Human Nature

Concerning human nature, the Stoics gave the traditional answer that it is the Mind that distinguished humans from other things, a concept borrowed from Diogenes the Cynic (b. ca 412 B.C.E.). This rationality was understood as the

Kant *Foundations of the Metaphysics of Morals* and *What is Enlightenment?* Translated with an introduction by Lewis White Beck (New York: Macmillan Publishing Company, twenty-first printing 1988).

²² Lucius Annaeus Seneca, *Epistulae morales ad Lucilium* (Las Vegas : CreateSpace, Independent Publishing Platform, 2014), *Ep.* 65, 12-15.

²³ Marcus Tullius Cicero, *On Fate (De fato) & The Consolation of Philosophy: IV 5-7,V* Boethius. Edited with introduction, translation and commentaries by R. W. Sharples (Warminster: Aris & Phillips, 1991). 39-44.

²⁴ *SVF*, II. 1000.

²⁵ Aristotle, *Περί ψυχής, Traité de l'âme (De anima)*, traduit et annoté par G. Rodier, III, 10-11.

²⁶ *SVF*, II. 984. "Being free to act otherwise" is the paradigmatic statement of the concept of free will adopted by the Christian thinkers.

²⁷ *SVF*, II. 991.

²⁸ Diogenes Laertius (abbreviated later as D.L.), *Lives of Eminent Philosophers* with an English translation by R. D. Hicks. (Cambridge, MA: Harvard University Press, 1995). Vol 1-2. VII. 89; *SVF* III. 229-236.

practical wisdom of living in accordance with Nature. Individual human beings share this rational principle with Nature, and thus it is a part of the world. Humans are endowed in varying degrees with "seed powers" (or *spermatikoi logoi*) which were part of the principle or *logos* of god. Cosmic events and human actions are both consequences of one thing, the *logos*. This Stoic concept of rationality acquired a new meaning in Habermas's interpretation as the communicative action in a social context representing a point of convergence for various cultures and societies.²⁹ This convergence is based on the role played by universal concepts, such as truth, rationality, justification, and consensus that are found in every community. They form a "grammar" for discourse by analogy to Chomsky's universal language grammar:

We may assume that the know-how informing argumentative practices represents a point of convergence where participants, however diverse their backgrounds, can at least intuitively meet in their efforts to reach an understanding.³⁰

Stoic theory thus anticipated the modern concepts as mind and matter are two constituents or attributes of one thing, the body. A man is a unified substance, but what he consists of is not uniform.

2. The Stoic Ethics

The governing principle *logos* is the seat of consciousness and consists of all the functions which we would associate with the brain. One function is called "impulse," (*hormē*) "a movement of thought towards or away from something"³¹ which is initiated by an impression. Impression and impulse provide causal explanations of goal-oriented animal movements. Creatures are genetically determined to show aversion and preference. The technical term describing this relationship to the environment is *oikeiōsis*, a self-awareness and the behavior depends on animal or human recognition of the object as belonging to itself by its

²⁹ Edward O. Wilson, *Consilience. The Unity of Knowledge* (New York: Alfred A Knopf, 1998). Marc D. Hauser, *Moral Minds. How Nature Designed Our Universal Sense of Right and Wrong*, (New York: HarperCollins Publishers, 2006).

³⁰ Jürgen Habermas, *Between facts and Norms*, translated by William Rehg, (Cambridge, MA: Polity Press, 1998), p. 311.

³¹ *SVF*, III. 377.

faculty of "assent."³² However, we are not impelled or repelled by things that we fail to recognize as a source of advantage or harm.³³ This faculty coerces us to select things necessary for self-preservation and not necessarily by reason. An infant is "not yet rational," and it takes about 7 years to develop the *logos*.³⁴ Automatic impulse thus governs the behavior of humans in the earliest years, the first thoughts concerning self-preservation. Gradually, as the child develops, its governing principle is modified by accretion of the *logos*, and then "reason [becomes] supreme as the craftsman of impulse."³⁵ Reason, however, does not destroy the earlier impulses but rather they are taken over by it.

Human nature therefore develops from irrationality to a structure governed by reason, which in turn brings a change in the direction of impulse.³⁶ In particular new objects of desire develop and virtue becomes a human characteristic.³⁷ This process is a natural development towards a moral life described by Epictetus of Hierapolis (60 - ca 120 C.E.).³⁸

Attainment of rationality alters the whole structure of a man's governing principle. Human behavior is a mode of rational conduct, which is the use of faculties for the purposes designed by universal natural law.³⁹

The interconnection between all events and things in the universe constitutes its determinism, i.e. the sequence between the causes and the effects. The Stoics believed that the universe operates in an orderly fashion and is intelligible, which means that if we knew all the preceding causes we would be able to predict future events. The ordered interweaving of causes and events was termed "fate"

³² SVF, II. 171.

³³ SVF, II. 979, 991.

³⁴ Aëtius, IV. 11.4 in *Dox. graeci. op. cit.*; Sénèque *Lettres à Lucillius* Texte établi par François Préchac et traduit par Henri Noblot (Paris: Société d'Édition "Les Belles Lettres," 1964), Tome I-VII. T. V. *Ep.* 124.9.

³⁵ D.L. VII. 86.

³⁶ Cicero, *De natura deorum, op. cit.*, II, 29; Sénèque, *Lettres à Lucillius, op. cit.*, T. V. *Ep.* 121, 10.

³⁷ Cicero, *Du bien suprême et des maux les plus graves (De Finibus)* traduction nouvelle avec notice and notes par Charles Appuhn (Paris: Librairie Garnier Frères, 1938). III, 20. Cicero, *On Moral Ends*, edited by Julia Annas, translated by Raphael Woolf, (Cambridge, UK: Cambridge University Press, 2007), III.20.

³⁸ Epictetus, *Discourse and Enchiridion* based on translation of Thomas Wentworth Higginson with an introduction by Irwin Edman (Roslyn, N.Y.: Walther J. Black, 1944) I.6.19-20.

³⁹ SVF, II. 899; III. 5, 175, 438, 466, 488.

(*heimarmēnē*).⁴⁰ Their concept of cause (*aitía*) was different from the Aristotelian one, the novelty consisting of the introduction of regularity, a law between cause and effect. Zeno identified this regularity with providence as corporeal intelligence (*logos*) in the cosmic fire (*pyr technikon* or *pyr noetikon*) located within the world and governing it. This theory reflected that of the soul of the universe developed by Plato.

Among causes, the Stoics differentiated between two types: external causes attributed to the working of fate and internal causes related to the particular nature and linked to necessity (*anankē*).⁴¹ Moreover, determinism was the effect brought about jointly by these two sets of causes. Additionally, “living things possess a natural movement, and this is a movement in accordance with impulse (*hormē*).”⁴²

A more detailed description of the forces operating in the living organism was given by Origen:

But of these [creatures] which have the cause of their movement within themselves, some are said to be moved out of themselves, others within themselves; and they are so divided because those which have life but no soul move out of themselves, those which have soul from within themselves. These latter move when there comes to them an image, that is a kind of desire or incitement, which impels them to move towards an object. Again, there exists in certain animals such an image, that is, a desire or feeling, which by a natural instinct impels and excites them to ordered and complex motion; as we see in spiders, which by an image, that is, desire and longing to weave a web, are excited to accomplish in an orderly manner the work of weaving, some natural movement undoubtedly calling forth the impulse to do this kind of work; nor do we find that this insect has any other feeling beyond the natural longing to weave a web. So too, the bee is impelled to fashion

⁴⁰ SVF II. 912, 915-917, 937, 943, 945, 975-976.

⁴¹ SVF II.979, 974.

⁴² SVF II.979.

honeycombs and to gather, as they call it, aerial honey. But while the rational animal has in itself these natural movements, it has also, to a greater extent than the other animals, the faculty of reason, by means of which it can judge (*krinō*) and discern between the natural movements, disapproving of and rejecting some and approving of and accepting others. So by the judgment of this reason the movements of men may be guided and directed towards an approvable life.⁴³

Living creatures operate driven by impulse which is generated from sensory presentation. In some animals the transition is automatic, but in humans the impulse is to be produced in a controlled manner due to the operation of the judging power—the reason (*logos*). Man is the only creature endowed with the capacity to understand cosmic events and to promote the rationality of Nature. He also is the only being that has the capacity to act in a manner that fails to accord with the operation of Nature [call it a Kantian freedom] and as such he is a moral agent. Man has “impulses to virtue” or “seeds of knowledge” as tools for his actions, and this is sufficient to direct reason in the right direction.⁴⁴

3. Cicero and His Formulation of the Natural Law

Thus in the Stoic philosophy humans have a natural capacity to act in accordance with the natural law or “right reason” through the impulse to virtue. We find this understanding of the natural law formulated by Cicero⁴⁵ in his *Republic*:

⁴³ SVF II.988. Origen (185-ca 254), church father, succeeded Clement of Alexandria in the school of Alexandria. The patriarch of Alexandria who at first supported Origen expelled him later for being ordained without the patriarch's permission. Origen then moved to Palestine and died there. He wrote commentaries on all the books of the Bible. In a treatise *First Principles (Peri Archon)* he formulated the philosophical exposition of Christian doctrine in which he interpreted scripture allegorically. He was a Neo-Pythagorean, and Neo-Platonist and like Plotinus believed that the soul passes through stages of incarnation before reaching God. For him even demons would be reunited with God. He considered God the First Principle, and Christ, the Logos, the secondary principle who was subordinate to him. Origen's views were declared anathema in the VIth century. Origen, *On the First Principles*, translated by G.W. Butterworth, with introduction by Henri de Lubac (New York: Harper & Row Publishers, 1973), Bk. III, I. 2-3, p. 159.

⁴⁴ SVF I.566.

⁴⁵ Marcus Tullius Cicero (106 B.C.E.-46 B.C.E.) was a Roman politician, lawyer, philosopher, and linguist, one of the greatest minds on the ancient Rome. Cicero introduced to the Romans knowledge of the Greek schools of philosophy and created Latin philosophical language. His

True law is right reason in agreement with nature; it is of universal application, unchanging and everlasting; it summons to duty by its commands, and averts from wrongdoing by its prohibitions. And it does not lay its commands or prohibitions upon good men in vain, though neither has any effect on the wicked. It is a sin to try to alter this law, nor is it allowable to attempt to repeal any part of it, and it is impossible to abolish it entirely. We cannot be freed from its obligations by senate or people, and we need not look outside ourselves for an expounder or interpreter of it. And there will not be different laws at Rome and at Athens, or different laws now and in the future, but one eternal and unchangeable law will be valid for all nations and all times, and there will be one master and ruler, that is God, over us all, for he is the author of this law, its promulgator, and its enforcing judge. Whoever is disobedient is fleeing from himself and denying his human nature, and by reason of this very fact he will suffer the worst penalties, even if he escapes what is commonly considered punishment...⁴⁶

Cicero in the *Laws* explains why this natural law is called law by differentiating understanding of it by the “populace” and by the “learned men”:

Well then, the most learned men have determined to begin with Law, and it would seem that they are right, if, according to their definition, Law is the highest reason, implanted by Nature, which commands what ought to be done and forbids the opposite. This reason, when firmly fixed and fully developed in the human mind, is Law. And so they believed that Law is intelligence, whose natural function it is to command right conduct and forbid

voluminous writings were influential in the subsequent centuries for developing political and legal thought, and especially Christian ethical thought. His philosophy, Stoic in its outlook, is humanist and still serves as a starting point for modern religious and secular elaborations. Among the most cited works of Cicero one must list *On the Nature of the Gods* (*De natura deorum*), *On the Chief Good and Evil* (*De finibus bonorum et malorum*), *On Fate* (*De fato*), *On Laws* (*De legibus*), and *On Duties* (*De officiis*).

⁴⁶ Cicero, *The Republic*, in *De re publica. De legibus*, with an English translation by Clinton Walker Keyes, (Cambridge, MA; London: Harvard University Press, William Heinemann, Ltd, 1988). Bk III. XXII.

wrongdoing. They think that this quality derived its name in Greek from the idea of granting to every man his own, and in our language I believe it has been named from the idea of choosing. For as they have attributed the idea of fairness to the word law, so we have given it that of selection, though both ideas properly belong to Law. Now, if this is correct as I think it to be in general, then the origin of Justice is to be found in Law, for law is a natural force; it is the mind and reason of the intelligent man, the standard by which Justice and Injustice are measured. But since our whole discussion has to do with the reasoning of the populace, it will sometimes be necessary to speak in the popular manner, and give the name of law to that which in written form decrees whatever it wishes, either by command or prohibition. For such is the crowd's definition of law. But in determining what Justice is, let us begin with that supreme Law which had its origin ages before any written law existed and or any State had been established.⁴⁷

It is clear that Cicero defines natural law as “law” by analogy to the human positive law, and such is its popular understanding. However, in reality it is natural force – mind and reason inherent in human nature regardless of the underlying and accepted metaphysics – recognized by “the most learned men” that directs our behavior on an individual and social level. It is natural because it is proper for human nature:

that animal which we call man, endowed with foresight and quick intelligence, complex, keen, possessing memory, full of reason and prudence, has been given a certain distinguished status by the supreme God who created him; for he is the only one among so many different kinds and varieties of living beings who has a share in reason and thought, while all the rest are deprived of it.

And further:

⁴⁷ The Greek term for law is *nomos*, which Cicero derives from *nemō*, to distribute, to grant, and the Latin term *lex* Cicero derives from *lego*, to choose. Quote from *The laws*, in *De re publica. De legibus, op. cit.*, Bk I.VI.18-19.

But those who have reason in common must also have right reason in common. And since right reason is law, we must believe that men have Law also in common with gods. Further, those who share Law must also share Justice.⁴⁸

4. Natural Development of Human Rationality

Thus in the Stoic view, natural law is a function of our human reason which, however, can be corrupted, and which functions both for an individual and for the society. Stoics could not have said much about the biological conditioning of our behavior except to say that Nature works by allowing a stepwise development of rationality, as the development of an individual proceeds, and with it the moral awareness through the mechanism of an “impulse” (*hormē*):

An animal’s first impulse, say the Stoics, is to self preservation, because Nature from the outset endears it to itself, as Chrysippus affirms in the first book of his work *On Ends* when his words are, ‘The dearest thing to every animal is its own constitution thereof,’ for it was not likely that Nature should estrange the living thing from itself or that she would leave the creature she has made without either estrangement from or affection for its own constitution. We are forced then to conclude that Nature in constituting the animal made it near and dear to itself; for so it comes to repel all that is injurious and give free access to all that is serviceable or akin to it. As for the assertion made by some people that pleasure is the object to which the first [primary] impulse of animals is directed, it is shown by the Stoics to be false. For pleasure if it is really felt, they declare to be a by-product, which never comes until Nature by itself has sought and found the means suitable to the animal’s experience or constitution; it is an aftermath comparable to the condition of animals thriving and plants attaining full bloom ... Nature’s role is to follow the direction of impulse. But when reason by way of a more perfect

⁴⁸ Cicero, *The Laws*, in *op. cit.*, Bk I.VII.22-23.

leadership has been bestowed on the beings we call rational, for them life according to reason rightly becomes the natural life. For reason supervenes as the craftsman of impulse.⁴⁹

The first natural impulse of a living creature, e.g. of a child, is directed not towards the outside world, but towards itself; it becomes self-aware and develops an “affection” for itself. This statement about primary impulse is an empirical one and the logical starting-point for Stoic ethics. Self-preservation (searching for food, defense against enemies, procreation) would be the only natural and right thing to follow if humans did not have the faculty of reason.⁵⁰

Therefore, the pattern of human behavior changes from a purely animal-like instinctive pattern to a fully rational one and involves, according to Cicero, five stages. They represent the development of human nature, but only a few people will reach its highest stages because the process is not independent of a man’s own effort. The “function” or goal of man in this process is attainment of perfection of his nature. The term used by Cicero is *officium* (corresponding to the English office, duty or task, as the office of an official charged with certain duties) and the Greek term is *kathēkon* (appropriate action). One could not speak about the “duty” of an animal or of an infant but rather of their natural function. The term duty becomes appropriate in stages three through five in human development as the changes in behavior become now functions of a rational being. Similar views on human moral development were formulated by Lawrence Kohlberg⁵¹ and Kazimierz Dabrowski.⁵²

⁴⁹ Diogenes Laertius *Lives of Eminent Philosophers* with an English translation by R. D. Hicks. (Cambridge, MA: Harvard University Press, 1995). Vol 1-2. VII. 85-86.

⁵⁰ Cicero, *De Finibus*, III. 20-21.

⁵¹ Lawrence Kohlberg (1927-1987) developed a theory, based on the philosophical intuition of Cicero, of the moral development of children through three levels – the pre-conventional, conventional, and post-conventional, each subdivided into two stages: **level 1:** stage 1 – morality is understood as obedience and punishment and avoidance of harm to others; stage 2 – morality is understood as satisfying one’s own interests and letting others do the same; **level 2:** stage 3 – morality is understood as playing the role of being a good person, i.e., meeting expectations, following the rules, and being concerned for others; stage 4 – morality is understood as doing one’s duty, maintaining the social order and the welfare of the society. **Level 3:** stage 5 – morality is understood as basic rights, values, and legal contracts of a society. Laws and duties are calculated on overall utility (utilitarian morality); stage 6 – morality is understood as an accord with universal, self-chosen principles (e.g., justice, equality and respect for the dignity of all human beings) which confer validity to maxims and actions (Kantian morality).

These psychological studies can be correlated with the studies of physical development of brain by Magnetic Resonance Imaging (MRI) and Graph Theory, a mathematical method allowing to measure how different brain regions develop and interconnect allowing correlation between changes in brain development and changes in behavior and cognition.⁵³

Foundation of Kant's Moral Philosophy and its Reinterpretation

Kant's writings on ethics⁵⁴ are the most important since antiquity. Kant argues, following the ancient Stoics that our moral obligations in the final analysis derive from reason by recognition of the natural moral law, and not from either god, or communities, nor from inclinations or desires. But being a practical realist, Kant differentiates several levels of motivation and of the operation of the behavioral rules preserving human autonomy and free choice in our moral decisions. Thus his theory, just as its sources (Aristotle's psychology and the Stoic doctrine), is deeply humanistic.

⁵² Kazimierz Dabrowski, *Positive Disintegration*, edited, with an introduction, by Jason Aronson, (Boston: Little, Brown and Company, 1964). Kazimierz Dabrowski, *Personality Shaping through Positive Disintegration*, introduction by O. Hobart Mowrer, (London: J. & A. Churchill Ltd., 1967).

⁵³ Neuroscientific studies show progressive maturation of various regions of the brain by increase in connectivity among brain regions as evidenced by increasing volume of white matter; that is the level of myelin wrapping up around the axons. Myelination taking place from childhood to adulthood speeds up the conduction of nerve impulses up to 100 times. It also allows a quicker recovery time, an increase up to 30 times in frequency with which neurons can transmit information. Another effect produced by myelination is strengthening the synapses or connections allowing for neurons to fire at a certain electrical threshold and coordinate better the activities in different parts of the brain on a variety of cognitive tasks. This interconnectivity can now be measured by applying Graph Theory, a mathematical method. Graph Theory allows one to measure how different brain regions develop and interconnect and allow correlation between changes in brain development and changes in behavior and cognition. Brain circuits develop from the stage of an embryo and continue throughout life. The amount of gray matter consisting of neuron cell bodies, dendrites and certain axons, increases during childhood, reaches its maximum around age of puberty and starts declining through adolescence plateauing during adulthood and starts declining again in senescence. The same pattern applies to the density of receptors on neurons. However, its development in terms of myelination of axons and strengthening of synapses occurs at different times in different parts of the brain. It matures faster in the primary sensorimotor areas devoted to sensing and responding to sight, sound, smell, taste, and touch. Gray matter matures latest in the prefrontal cortex which is important in development of our cognition, development of executive functions such as organization, decision making, formulation of hypotheses, planning, regulation of emotions, and of our social cognition: ability to form and analyze social relationships, discern friends from foes, etc. Jay N. Giedd, The Amazing Teen Brain, in *Scientific American*, July 2015, Vol. 312, No. 6, pp. 33-37.

⁵⁴ *Foundations of the Metaphysics of Morals* (1785), *Critique of Practical Reason* (1788), *Metaphysics of Ethics* (1797).

There are many parallels in Kant's thought with the ideas developed by the ancient Stoics and Eastern thought developed in Indian culture and in China. His thought is thus an elaboration on the themes of the ancient philosophers.⁵⁵ It is important for our analysis to keep in mind that the philosophical intuitions we find in various schools in the West and in the East can be reevaluated today in a more precise way due to the progress in the natural sciences, and especially from the evolutionary perspective. This does not mean that such perspective was absent in the previous search, especially in the ancient Greek or Indian thought. The naturalistic outlook represented in the ancient schools and philosophical intuition today is confirmed by studies of our biological nature. Yet we humans are not automata which follow the prescribed pattern of input/output operating in the mechanical, even highly adaptive systems defined by science. With the rise of sentient and rational life appeared a new quality in nature, namely, freedom.⁵⁶ Still this freedom should be controlled by reason though we are not always motivated by moral law. Modern science provides today insight into the mechanisms operating in human behavior at several levels.

1. Condition of Morality

Kant begins his treatise, *Foundations of the Metaphysics of Morals* (1785),⁵⁷ with the classification of our rational knowledge. Kant specified the task of a moral philosopher as clarifying the "principle of morality" on which the rational agent can act insofar as his action is morally good; to justify this principle, that is, to show that this principle is actually binding upon an imperfect agent such as a human being; to apply this principle to build an exposition of human obligations, i.e., duties. In this first work out of the three treatises devoted to moral

⁵⁵ The ancient moral philosophy of the Stoics is still valid. It acquired in Kant's elaboration more precise generalization. But this philosophy still inspires more detailed elaborations and application to modern conditions of life, especially by combining the concepts developed by Kant with general outlook of the Stoics. Such an approach reached the level of a new height of logical analysis in the work of Lawrence C. Becker, *A New Stoicism* (Princeton, NJ: Princeton University Press, 1998).

⁵⁶ Daniel C. Bennett, *Freedom Evolves*, (New York: Viking, 2003). Gregory R. Peterson, "Falling Up: Evolution of Original Sin." In Michael Ruse, ed., *Philosophy after Darwin* (Princeton and Oxford: Princeton University Press, 2009), pp. 539-548.

⁵⁷ Immanuel Kant, *Foundations of the Metaphysics of Morals and What is Enlightenment?* Translated, with Introduction, by Lewis White Beck. (New York: London: Macmillan Publishing Company, Collier Macmillan Publishers, 1988). Onora O'Neill, "Kantian Ethics." In *A Companion to Ethics*. Peter Singer, ed. (Oxford: Blackwell Publishers, 1997), pp. 175-185.

philosophy⁵⁸ Kant dealt with the first task of the moral philosopher. He was not interested in constructing an ethical doctrine or writing a casuistry of morals, but searched for an axiom or principle which might be used for building a general theory of laws of freedom (in contrast to the laws of nature, concerned with physical nature), the science of which he called ethics or theory of morals. In the *Metaphysics of Morals* (1797) Kant defined more precisely what ethics is, namely, as the science of how one is under obligation without regard for any possible external lawgiving, that is, as doctrine of virtue.⁵⁹ Just as natural philosophy (physics) has its empirical part so does moral philosophy because it has to determine the human will as it is affected by nature. Kant calls this anthropology.

Thus the laws of moral philosophy are those according to which everything should happen, allowing for conditions under which what should happen often does not. Though the title contains the word metaphysics it is not about the understanding of ultimate reality, or the metaphysics of nature, but a rigorous search for an establishment of the supreme principle of a possible pure will which cannot be derived from observations of actual behavior of men but can be established by reason. For Kant defines metaphysics as “a system of *a priori* knowledge from concepts alone ... a practical philosophy, which has not nature but freedom of choice for its object” and as such it requires metaphysics of morals which “every man also has it within himself, though as a rule only in an obscure way.”⁶⁰

Kant starts his considerations with an analysis of the conditions for attaining happiness – namely, of being worthy to be happy i.e., of having a good will that is striving for moral perfection. Our moral obligation in the Greek and Judaic traditions is to achieve this "purity of heart" or "kingdom of god," which means good will. "Nothing in the world – indeed nothing even beyond the world – can possibly be conceived which

⁵⁸ Those three treatises are: the *Foundations of the Metaphysics of Morals* (1785), *Critique of Practical Reason* (1788), and *Metaphysics of Morals* (1797).

⁵⁹ Kant, *Metaphysics of Morals*, introduction, translation, and notes by Mary Gregor, (Cambridge; Cambridge University Press, 1991), XVII, 410.

⁶⁰ *Ibidem*, II, 216.

could be called good without qualification except a good will."⁶¹ This is a spontaneous feeling of respect for moral law and an innate sense of "ought." This postulate is an empirical one derived from the observation of universal human nature. Kant next analyzes in quite a manner of evolutionary approach that nature for achieving its end – preservation of life and its welfare – would select instinct rather than reason:

For all the actions which the creature has to perform with this intention, and the entire rule of conduct, would be dictated much more exactly by instinct, and that the end would be far more certainly attained by instinct than it ever could be by reason. And if, ... reason should have been granted to the favored creature, it would have served only to let it contemplate the happy constitution of its nature, to admire it, to rejoice in it, and to be grateful for it to its beneficent cause. But reason would not have been given in order that the being should subject its faculty of desire to that weak and delusive guidance and to meddle with the purpose of nature. In a word, nature would have taken care that reason did not break forth into practical use nor have the presumption, with its weak insights, to think out for itself the plan of happiness and the means of attaining it. Nature would have taken over not only the choice of ends but also that of the means, and with wise foresight she would have entrusted both to instinct alone... Reason is not, however, competent to guide the will safely with regard to its object and the satisfaction of all our needs ... and to this end an innate instinct would have led with far more certainty. But reason is given to us as a practical faculty, i.e., one which is meant to have an influence on the will. As nature has elsewhere distributed capacities suitable to the functions they are to perform, reason's proper function must be to produce a will good in itself and not one good merely as a means, for to the former reason is absolutely essential.⁶²

Thus the function of reason is the establishment of this "good will." Good will is good because of its willingness, that is, it is good in itself without regard to anything else. It is not the sole and complete good but it is the highest good and the condition for of all others. "It dwells already in the natural sound understanding and does not need so much

⁶¹ Kant, *Foundations*, *op. cit.*, p. 9.

⁶² Kant, *ibid.* p. 11-12.

to be taught as only to be brought to light. In the estimation of the total worth of our actions it always takes first place and is the condition of everything else.”⁶³ As an example of such situation Kant gives us an interpretation of the scriptural passages that command us to love neighbors and enemies. It is not done from inclination but from duty, which resides in the will not in feelings or propensities, but in principles of action.

In saying this Kant describes nothing other than common moral consciousness and derives the principle for moral action. Charles Darwin observed that in the time of Kant the origin of this moral consciousness was questioned and Kant himself asked about it. Darwin was among the first who gave a naturalistic explanation for its origin. He stated in his *The Descent of Man* (1871):⁶⁴

I fully subscribe to the judgment of those writers who maintain that of all the differences between man and the lower animals, the moral sense or conscience is by far the most important. This sense as Mackintosh⁶⁵ remarks, ‘has a rightful supremacy over every other principle of human action;’ it is summed up in that short but imperious word *ought*, leading him without a moment’s of hesitation to risk his life for that of a fellow-creature; or after due deliberation, impelled simply by the deep feeling of right or duty, to sacrifice it in some great cause. Immanuel Kant exclaims, ‘Duty! Wondrous thought, that worketh neither by fond insinuation, flattery, nor by any threat, but merely by holding up thy naked law in the soul, and so extorting for thyself always reverence, if not always obedience; before whom all appetites are dumb, however secretly they rebel; whence thy original?’⁶⁶

⁶³ Kant, *ibid.* p. 15.

⁶⁴ Charles Darwin, *The Descent of Man*, in *The Origin of Species and The Descent of Man*, (New York: The Modern Library, no date). Chapter 4, pp. 471-472.

⁶⁵ Mackintosh, *Dissertation on Ethical Philosophy*, 1837, p. 231.

⁶⁶ Immanuel Kant, *Metaphysics of Ethics*, translated by J.W. Semple, (Edinburgh, 1836), p. 136. This quote comes from Kant’s work *Critique of Practical Reason* (1788). The full quote is: “Duty! Thou sublime and mighty name that dost embrace nothing charming or insinuating but requirest submission and yet seekest not to move the will by threatening aught that would arouse natural aversion or terror, but only holdest forth a law which of itself finds entrance into the mind and yet gains reluctant reverence (though not always obedience) – a law before which all inclinations are mute even though secretly work against it: what origin is worthy of thee, and where is the root of thy noble descent which proudly rejects all kinship with the inclinations and from which to be descended is the indispensable condition of the only worth which men alone can give themselves?” Immanuel Kant, *Critique of Practical Reason*, edited and translated with notes and introduction by Lewis White Beck, third edition, (New York: Macmillan Publishing Company, 1993), p. 90.

This great question has been discussed by many writers of consummate ability; and my sole excuse for touching on it, is the impossibility of here passing it over; and because, as far as I know, no one has approached it exclusively from the side of natural history. The investigation possesses, also some independent interest, as an attempt to see how far the study of the lower animals throws light on one of the highest physical faculties of man.

The following proposition seems to me in a high degree probable – namely, that any animal whatever, endowed with well-marked social instincts, the parental and filial affection being here included, would inevitably acquire a moral sense or conscience, as soon as its intellectual powers have become as well, or nearly as well developed as in man.

We can now add to Kant’s postulate that modern science confirms Kant’s intuition and provides a biological, naturalistic, evolutionary explanation for the existence of this moral consciousness.

Kant insists that in deciding what we ought to do our variable desires are not important – for an action to be truly moral it has to be done in the belief and because of the belief that it is right, i.e., out of respect for moral law.

It is important to indicate at this point that Kant and all philosophers until the post-Darwinian times considered as truly (strictly) moral the actions produced by conscious rational and reflective analysis. This view arose from Origen’s account of the Stoic analysis of the motion of objects and action of animals and humans.⁶⁷ Origen reported that the Stoics differentiated human beings from all other natural things by a particular kind of movement (action) unique to them. What distinguished those things from others that are moved from without is that they have a certain kind of cause (*aitía*) of motion in themselves. Things like plants and animals have an internal cause of motion, “nature” (*logos* for Stoics) and “soul” (in Origen’s view); inanimate objects must have an external agency to be moved along; they move by thrust of external force. Plants and animals by virtue of having “soul” (and “nature”) are capable of self-movement or action. In the case of animals, sensory stimulation is a necessary condition of the impulse to

⁶⁷ See note 37.

self-movement. Those lacking intelligence move and act according to a prescribed pattern. Human beings do not move or act in a set fashion—because the faculty of reason (*logos*) enables them to judge (*krinō*) their sensory presentations—to reject or accept and to be guided. Origen calls this third kind of movement (action) self-movement of which only rational animals are capable, motion (action) “through themselves.”⁶⁸ We are deserving of praise when we choose the noble and avoid the base, but when we follow the opposite course we are blameworthy. Origen reasons: It is neither true nor reasonable to lay the blame on external things and release ourselves from the accusation making ourselves analogous to wood and stones inasmuch as they are drawn along by external things that move them; such is the argument of someone who wants to set up a counterfeit notion of autonomy. For if we should ask him what autonomy is, he would say that it obtains “if there are no external causes, when I intend to do something in particular, that incite to the contrary.”⁶⁹

The Stoics believed that human beings are capable of self-movement without actually initiating their own motion. Origen’s account of the difference in motion (action) between humans and other animals gave rise to the concept of morality as a behavior conditioned by a rational, reflective act. Origen said:

We must not forget, however, that the greater part of the nature assigned to every rational creature is in animals in varying degree, some having more and some less; so that the instinct in hunting dogs and in war horses comes near, if I may say so, to reason itself. To be subject, then, to particular external impression which gives rise to such or such image is admittedly not one of the things lying within our power; but to decide to use what has happened either in this way or in that is the work of nothing else but the reason within us, which, as the alternatives appear,

⁶⁸ *Stoicorum Veterum Fragmenta* Collegit Ioannes Ab Arnim (Stuttgartiae: In Aedibus B.G. Teubneri, MCMLXIV). Vol 1-4. (abbreviated as SVF). SVF II.989, 879. Origen, *De principiis*, (*On the First Principles*), translated with introduction and notes by G. W. Butterworth, (Gloucester, Mass.: Peter Smith, 1973). III, 1, 2, 3.

⁶⁹ SVF II.990.

either influences us towards the impulses that incite to what is good and seemly or else turns us aside to the reverse.⁷⁰

Many actions, even if they produce good results, that are done in accordance with the law do not belong to the realm of moral actions in this strict sense if they are done with some ulterior motives. Thus truly morally good action will not only be in accord with the law but also because the law is acknowledged as absolutely and universally binding. Kant formulated thus the condition of morality in three propositions: 1. It must be done from duty; 2. Moral value is in the maxim by which action is determined and not in the purpose, thus it depends on the principle of volition; 3. Duty is a necessity of an action from the respect of law i.e., consciousness of the submission of the will to a law. And the subjective principle of volition must be distinguished from the objective principle of volition which would serve all rational being also subjectively if they were governed by reason.

2. Moral Law or Categorical Imperative

Kant next derives the concept of moral law from consideration by pure reason and will. Everything in nature works according to laws. But only a rational being has the capacity of acting according to the conception of laws, i.e., according to principles.

This conception of law derives from the Stoic philosophy as a natural capacity to act in accordance with “right reason” through the impulse to virtue. We find such formulation of the “natural law” in Cicero’s *Republic*.⁷¹

Cicero in the *Laws* explained why this natural law is called law by differentiating understanding of it by the “populace” and by the “learned men;” and at the same time he explains the etymology of the term “law” from the idea of “choosing,” and fairness implied by the term.⁷²

It is clear that Cicero defines natural law as “law” by analogy to the human positive law. And such is its popular understanding. However, in reality it is

⁷⁰ Origen, *op. cit.*, Bk III, 3, p. 160. *SVF* II.992.

⁷¹ Cicero, *The Republic*, in *De re publica. De legibus*, with an English translation by Clinton Walker Keyes, (Cambridge, MA; London: Harvard University Press, William Heinemann, Ltd, 1988). Bk III. XXII.

⁷² The Greek term for law is *nomoi* which Cicero derives from *nemō*, to distribute, to grant, and the Latin term *lex* Cicero derives from *lego*, to choose. Quote from *The laws*, in *De re publica. De legibus*, *op. cit.*, Bk I.VI.18-19.

natural force, mind and reason inherent in human nature regardless of the underlying and accepted metaphysics, recognized by “the most learned men” which directs our behavior on an individual and social level. It is natural because it is proper for human nature.⁷³

Kant equates this capacity to act according to the conception of laws with will. But since reason is required for the derivation of actions from laws, will is nothing else but the practical reason that governs human behavior through a conception of law. In human beings, however, reason by itself does not sufficiently determine the will which is also subjugated to subjective conditions which do not always agree with objective ones. But the pure conception of duty and of moral law has the highest influence. Kant emphasizes that moral theory that is put together from a mixture of incentives, feelings, inclinations and partially from rational concepts makes the mind vacillate between motives and leads only accidentally to good and often to bad. The conception of an objective principle to which we refer in governing our actions is a command of reason and the formulation of it is an imperative, an expression containing an "ought."

If the action is good as a means to something else, the imperative is hypothetical, thus it is conditional upon circumstances and advisable only. Such a goal cannot be universally held by all men at all times. Further, the hypothetical imperatives can be divided into technical (imperative of skill), belonging to art and into pragmatic (imperative of prudence), belonging to welfare of the being.

Accordingly, Kant differentiated three levels of behavioral rules operating in the living world:

1. the instinctive rules to which belong human urges satisfying our physiological and biological needs, as well as behavior of lower social animals. They are controlled by genes or epigenetic rules.

2. the heteronomous rules (hypothetical imperative, where the action is a means to something else or the will is subjected to extraneous motivations) which Kant divided into two types. A. One type, empirical, is associated with desires, fear, and other motivations. Here belong also the rules produced by the so-called

⁷³ Cicero, *The Laws*, in *op. cit.*, Bk I.VII.22-23.

moral sense which is responsible for subconscious or vaguely perceived, non-reflective actions and reactions. They may operate as well in higher animals. Modern science enlarges this intuition of Kant indicating that there is a subconscious, quasi-instinctive component in human behavior which may be controlled genetically and/or a result of habituation.⁷⁴ Also behavior of higher animals like apes may be controlled by this unconscious mechanism. It cannot be termed “moral,” however, using the Kantian definition of morality (morality in the strict sense). Once these rules are consciously recognized they constitute the basis for moral reflective behavior (morality in the strict sense). Nevertheless higher animals have a certain subconscious recognition of rules of behavior common with humans which we prefer to classify as proto-morality. B. The second type, rational, refers to heteronomous rules which are produced by reflection; however, they are motivated by extrinsic values like achieving perfection or theological considerations.

3. The autonomous rules (categorical imperative) which are attained by conscious reflection representing the categorical imperative. These are moral rules in the fullest sense of morality proper only to humans.⁷⁵

Modern Psychological and Philosophical Studies on the Development of Human Morality

⁷⁴ This aspect of human behavior was amply discussed and elaborated by the Stoics. In modern times Friedrich Nietzsche was one of the early philosophers who recognized the importance of social pressures on a society for the development of moral rules. Friedrich Nietzsche, *The Birth of Tragedy and The Genealogy of Morals*, translated by Francis Golting, (New York: Anchor Books, 1990).

⁷⁵ There is a correspondence here with the Cicero’s view on human behavior. Immanuel Kant postulated categorical imperative as the maxim for human conduct. This maxim represents the highest level of understanding of morality and therefore he also postulated hypothetical imperative in which human behavior may be governed by other motifs. Immanuel Kant, *Foundations of the Metaphysics of Morals and What is Enlightenment?* Translated, with an Introduction by Lewis White Beck, (New York, London: Macmillan Publishing Company, Collier Macmillan Publishers, 1988). Marian Hillar, “Is a Universal ethics Possible? A Humanist Proposition.” In *The Philosophy of Humanism and the Issues of Today*. American Humanist Association, Houston, 1995, pp. 127-148. In the final analysis reason is the basis for morality and philosophy produced very good intuitive theory how it works. Derek Parfit, *Reason and Persons*, (Oxford: Clarendon Press, 1987). Jürgen Habermas, “A Conversation about God and the World,” in *Time of Transitions*, edited and translated by Ciaran Cronin and Max Pensky, (Cambridge, UK: Polity Press, 2006), pp. 149-170. Modern science now grounds this philosophical intuition in evolutionary biological processes providing solid empirical foundations.

This classification of the behavioral levels derives from the Stoic doctrine⁷⁶ and corresponds to the stages of moral development of man through which community life and virtue are recognized as pre-eminently “things belonging to man” in their terminology and are related to the autonomous behavioral level (categorical imperative of Kant). In modern times Kazimierz Dabrowski⁷⁷ (1902-1980) and Lawrence Kohlberg⁷⁸ (1927-1987) confirmed Stoic view of moral development of man. Dąbrowski developed a theory of *positive disintegration* which views psychic breakdown as an important step to personality building. This disintegration embraces a variety of processes of emotional disturbance or even complete breakdown. But he considers them natural processes for integration, psychic health, adaptation to the environment and building personality. Kohlberg, following the studies of Jean Piaget⁷⁹ (1896-1980) suggested six stages of moral development of children and adults through three levels – the pre-conventional, conventional, and post-conventional, each subdivided into two stages. The first two levels correspond to the heteronomous behavioral level of Kant. Level 1: stage 1 – morality is understood as obedience and punishment and avoidance of harm to others; stage 2 – morality is understood as satisfying one’s own interests and letting others do the same; Level 2: stage 3 – morality is understood as playing the role of being a good person, i.e., meeting expectations, following the rules, and being concerned for others; generally defined as group identification; stage 4 – morality is understood as doing one’s duty, maintaining the social order and the welfare of the society. This stage is generally defined as recognition of authority. In the third level (Level 3) in stage 5 morality is understood as the

⁷⁶ SVF 1.197.

⁷⁷ Kazimierz Dabrowski, *Positive Disintegration*, edited, with an introduction, by Jason Aronson, (Boston: Little, Brown and Company, 1964). Kazimierz Dabrowski, *Personality-shaping Through Positive Disintegration*, introduction by O. Hobart Mowrer (London: J. & A. Churchill, Ltd, 1967).

⁷⁸ Lawrence Kohlberg, *Essays on Moral Development*, (San Francisco: Harper & Row, 1981, 1984), Vols. 1, 2.

⁷⁹ Jean Piaget, *The Moral Judgment of the Child*, translated by Marjorie Gabain, (New York: The Free Press, A Division of Macmillan Publishing Co., 1965). Ronald Duska and Mariellen Whelan, *Moral Development. A Guide to Piaget and Kohlberg*, (New York, Paramus, Toronto: Paulist Press, 1975). Emile Durkheim, *Moral Education. A study in the Theory and Application of the Sociology of Education*, forward by Paul Fauconnet, translated by Everett K. Wilson and Herman Schnurer, edited, with a new introduction, by Everett K. Wilson, (London: The Free Press, A Division of Macmillan Publishing Co., 1973).

basic rights, values, and legal contracts of a society. Positive laws and duties are calculated on overall utility (utilitarian morality). This stage involves critical knowing and choice; in stage 6 morality is understood as an accord with universal, self-chosen principles (e.g., justice, equality and respect for the dignity of all human beings) which confer validity to maxims and actions. This level involves internalization of the principle of autonomy and corresponds completely to the autonomous behavioral level (categorical imperative) in Kant's classification. This is the level where human internal dialogue elevates moral behavior to a level of abstraction and self-reflection not-existing before humans entered the evolutionary scene.

Modern Science Provides a Biological Basis for Human Behavior

As we have seen Stoics claimed that the pattern of human behavior changes from purely animal-like and instinctive to fully rational and involves five stages. They represent the development of human nature, but only a few people will reach the highest stages, because the process is not independent of a man's own effort. Thus the Stoics recognized a natural biological basis for human behavior from which reason draws conclusions, develops rules and constructs a moral philosophy.⁸⁰ Even Kant wondered about the origin of the moral principle that humans display and which he called "goodwill."⁸¹

The "function" or goal of man in this process is attainment of the perfection of his nature. The term used by Cicero is *officium* (duty or task, as the office of an official charged with certain duties) could not be applied to an animal or an infant so one could not talk about the "duty" of an animal or of an infant, but rather of their natural function. The term duty becomes appropriate in stages three-through-

⁸⁰ Marian Hillar, "Natural Development, Rationlity, and Responsibility in Stoic Ethics," published in the *Essays in the Philosophy of Humanism*, Robert D. Finch, M. Hillar, F. Prah, eds., Vol. 6, pp. 44-78. American Humanist Association, Houston, 1998.

⁸¹ Immanuel Kant, *Critique of Practical Reason*, edited and translated with notes and introduction by Lewis White Beck, third edition, (New York: Macmillan Publishing Company, 1993), p. 90.

six in human developmental model of Kohlberg as the changes in behavior become the functions of a rational being.⁸²

Evolutionary Biology and Cooperation

Looking at the principles of evolutionary theory it seems at first that the existence of a cooperation should be contradictory to the evolutionary process. This difficulty was noticed already by Darwin when he discussed the origin of social moral faculties in “the primeval man.” Darwin admitted that such traits as courage and fidelity could increase in competition between tribes: “A tribe rich in the above qualities would spread and be victorious over other tribes.”⁸³ But asking how within the same tribe could a large number of members become endowed with these social and moral qualities, Darwin answered himself:

He who was ready to sacrifice his life, as many a savage has been, rather than betray his comrades, would often leave no offspring to inherit his noble nature. ... Therefore it hardly seem probable, that the number of men gifted with such virtues, or that the standard of their excellence could be increased through natural selection, that is by the survival of the fittest; for we are not speaking here of one tribe being victorious over another.⁸⁴

Then Darwin postulated that though the high standard of morality may give a slight advantage to each individual in a tribe, yet an increase in the number of well-endowed men and an advancement in the standard of morality will certainly give an immense advantage to one tribe over another. A tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity obedience, courage, and sympathy, were always ready to aid one another, and to sacrifice themselves for the common good, would be victorious over most tribes, and this would be natural selection.”⁸⁵ Evolutionary scientists classify such a selection as a “between-group selection.” Moreover, cooperative and altruistic

⁸² Cicero, *On the Good Life*, translated with an introduction by Michael Grant ((Harmondsworth, UK: Penguin Books, 1986).

⁸³ Charles Darwin, *The Origin of Species and The Descent of Man and Selection in Relation to Sex*, (Toronto: Modern Library, reprint of the second edition of 1860, no date). p. 498.

⁸⁴ Ibid. p. 499.

⁸⁵ Ibid. p. 500.

behavior, understood not in the everyday sense of conscious act, but as a behavior which benefits other organism at a cost to the donor, is widely common throughout the animal kingdom.⁸⁶ It seems from the studies of many biologists that entire organisms like multicellular organisms with specialized cells could also be considered as organisms made of cooperating cells and entire colonies of social organisms depend on cooperation and often altruistic sacrifice of some individuals for the sake of the group.⁸⁷ Thus Martin A. Nowak building mathematical models for evolution considers cooperation the third fundamental process for evolution after mutations and natural selection.⁸⁸ The problem puzzled many biologists, economists and mathematicians. Darwin suggested that natural selection favored families whose members were cooperative and answered Kant's question about the origin of moral rule.⁸⁹

Such prediction by Darwin is confirmed today by scientific investigations postulating the existence of cooperative behavior in natural animal world. Scientists developed several behavioral models using computer modeling and studies of animals.⁹⁰ Most recently Frans de Waal⁹¹ summarized the studies on the primates behavior suggesting that we share our human behavioral traits with higher primates and that our morality, as predicted by Darwin and many philosophers, is a refinement of basic fundamental processes operating in nature.

Modern Science enlarged the Kantian paradigm of behavioral rules into three levels of morality understood in a broad sense (Table 1).

⁸⁶ Frans de Waal, with participation of Robert Wright, Christine M. Korsgaard, Philip Kitcher, Peter Singer, *Primates and Philosophers. How Morality Evolved* (Princeton and Oxford UK: Princeton University Press, 2006).

⁸⁷ James H. Hunt, *The Evolution of Social Wasps* (Oxford: Oxford University Press, 2007). Bert Hölldobler and E. O. Wilson, *The Superorganism: The Beauty, Elegance, and Strangeness of Insect Societies* (NEW York: W. W. Norton & Company, 2008).

⁸⁸ Martin A. Nowak, *Evolutionary Dynamics: Exploring the Equations of Life* (Cambridge, MA: Belknap Press of Harvard University Press, 2006).

⁸⁹ Charles Darwin, *The Descent of Man and Selection in Relation to Sex*, *op. cit.* p. 471-472.

⁹⁰ Elizabeth Pennisi, "On the Origin of Cooperation," in *Science*, 4 September, 2009, Vol. 325, pp. 1196-1199.

⁹¹ Frans de Waal, *Our Inner Ape. A Leading Primatologist Explains Why We Are Who We Are* (New York: Riverhead Book, 2005). Frans de Waal, with participation of Robert Wright, Christine M. Korsgaard, Philip Kitcher, Peter Singer, *Primates and Philosophers. How Morality Evolved* (Princeton and Oxford UK: Princeton University Press, 2006).

Table 1
Three Levels of Morality Compared From Animal Studies

Level Compared	Description	Humans and Apes
1. Moral sentiments (Kant's instinctive behavior)	Human psychology provides "building blocks" of morality, such as the capacity for empathy, a tendency for reciprocity, a sense of fairness, and the ability to harmonize relationships.	In these areas, there exist evident parallels with other primates.
2. Social pressure (Kant's heteronomous behavior)	Insisting that everyone behaves in a way that favors a cooperative group life. The tools to this end are reward, punishment, and reputation building.	Community concern and prescriptive social rules do exist in other primates, but social pressure is less systematic and less concerned with the goals of society as a whole.
3. Judgment and reasoning (Kant's autonomous behavior)	Internalization of others' needs and goals to the degree that these needs and goals figure in our judgment of behavior including others' behavior that does not directly touch us. Moral judgment is self-reflective (i.e., governs our own behavior as well) and often logically reasoned.	Others' needs and goals may be internalized to some degree, but this is where the similarities end. Humans are the only species to worry about why we think what we think.

Frans de Waal, *Primates and Philosophers* (Princeton and Oxford: Princeton University Press, 2006), p. 168.

Such studies and other led to the formulation of the humanity capacity for moral judgment and action as "moral faculty."⁹² This concept of the "moral faculty" or rather "moral capacity" goes back to antiquity when the ancients had a premonition of innate moral principles (moral sentiment, sense of justice,

⁹² Marc D. Hauser, *Moral Minds. How Nature Designed Our Universal Sense of Right and Wrong*, (New York: HarperCollins Publishers, 2006). Marc D. Hauser, "The Liver and the Moral Organ," in *Philosophy after Darwin*, Michael Ruse, editor (Princeton, N.J., Oxford, UK : Princeton University Press, 2009), pp. 423-433.

common moral thought), which were working subconsciously.⁹³ It is the basis for the moral rules which like rules of logic or of natural sciences are objective truths, outcomes of rational choice.

These rules were developed and formulated in various cultures with varying degree of success and today they are at the foundation of humanistic ethics. John Rawls (1921-2002) in his well known treatise *A Theory of Justice* (1971) suggested that these innate moral principles can be analogized to the “sense of grammaticality” (a “faculty of grammar”) described by Noam Chomsky.⁹⁴

Finally, a few words should be devoted to the so-called altruistic behavior of animals. It is contrasted with the so-called selfish behavior. These two terms have different meaning in biological studies of behavior. In popular usage, however, the term selfish is used as meaning self-centered behavior. In biology this term means self-serving behavior without motives or intentions implied by “selfish.” One cannot say about a spider building a web that he is doing this intentionally for his self-centered interest to catch flies. Insects do not have a capability to predict the results of their actions. So similarly, the term “altruistic behavior” means a behavior benefiting the recipient without regard of motives or intentions. Humans behave altruistically most often spontaneously, automatically and instinctively without previous rationalization, though we are able to act altruistically after cognitive reflection. Primates behave the same way, and we cannot expect that they always plan this behavior with expectation of a return of the benefit. Thus de Waal differentiated several levels of altruistic behavior: 1. functional, done without any appreciation of cost or benefit; 2. socially motivated – as result of distress of others or begging; 3. intentional – done with awareness how others may benefit (limited to humans and a few large-brained animals); 4. “selfish” helping – done with expectation of returned benefits.

⁹³ Among modern philosophers David Hume suggested that our notions of good and evil derive from very general principles expressed by our “sentiments.” David Hume, *Enquiries Concerning Human Understanding and Concerning the Principles of Morals* reprinted from the posthumous edition of 1777 and edited with introduction, comparative table of content, and analytical index by L.A. Selby-Bigge. Third edition with text revised and notes by P.H. Niddith (Oxford: Clarendon Press, 1992), pp 3-9.

⁹⁴ John Rawls, *A Theory of Justice*, revised edition (Cambridge, Mass: The Belknap Press of Harvard University Press, 1971, 1999), pp. 40-46. Noam Chomsky, *Aspects of the Theory of Syntax* (Cambridge, Mass: The M.I.T. Press, 1965), pp. 3-9.

Table 2
Classification of Altruistic Behavior

Functionally Altruistic	Socially Motivated helping	Intentionally Targeted helping	“Selfish” helping
Cost to performer, benefit to recipient	Empathic response to distress or begging	Awareness of how the other will benefit	Intentionally seeking return benefit

←Most animals→

← Many social animals →

← Humans, some large-brained animals →

←Humans, some large-brained animals→

Frans de Waal, *Primates and Philosophers. How Morality Evolved* (Princeton and Oxford: Princeton University Press, 2006), p. 180.

Conclusion

Following Darwin, primatologists and other biologists⁹⁵ have long argued that the roots of human morality are manifest in social animals like apes and monkeys. These animals express feelings of empathy, gratitude, expectations of reciprocity and fairness, and community concerns, which are essential behaviors for mammalian group life and constitute a counterpart to human morality. Marc D. Hauser summarizing all studies done with animals and in modern psychology and anthropology proposes that people are born with a capacity for moral judgment (moral grammar of Rawls) wired into their neural circuits by evolution. This grammar generates instant moral judgments which are instantaneously inaccessible to the conscious mind. Hauser presents his argument as a hypothesis to be proved, but it is based on solid experimental ground, including work with primates and young children and in empirical results derived from studies

⁹⁵ E. O. Wilson, *Sociobiology: The New Synthesis* (Cambridge, MA: Harvard University Press, 1975). E. Westermarck, *The Origin and Development of the Moral Ideas* (London: Macmillan, 1908 (1912, 1917), Vol. 1-2. Frans de Waal, *Our Inner Ape*, (New York: Riverhead Books, 2005). Frans de Waal, *Primates and Philosophers. How Morality Evolved*, (Princeton and Oxford: Princeton University Press, 2006). Robert Wright, *The Moral Animal. Evolutionary Psychology of Everyday Life*, (New York: Vintage Books, 1995). Robert Trivers, *Natural Selection and Social Theory. Selected papers of Robert Trivers*, (Oxford: Oxford University Press, 2002).

performed by moral philosophers. Hauser argues that moral grammar operates in the same way as the universal grammar proposed by linguist Noam Chomsky for developing language faculty. This universal grammar is a system of rules for generating syntax and vocabulary but does not specify any particular language. That is supplied by the culture in which a child grows up. By analogy, moral grammar, too, is a system composed of neural circuits which generate moral behavior and not a list of specific rules. Basic rules are the same in every society, but it allows for cultural variations, since cultures can put different emphases on its elements.

This proposal has strong and far-reaching implications. It means that parents and teachers do not really teach children the rules of correct behavior rather, they instill the cultural biases and modifications. Also, it demonstrates in a tangible way that religions are not the source of moral codes. On the contrary, moral grammar which operates subconsciously is immune to religious doctrines. At best, religions enforce instinctive behavior and it seems that they developed for the purpose of enforcing the internalization of rationally recognized “building blocks” of morality: capacity for empathy, tendency for reciprocity, and sense of fairness.⁹⁶ Moral grammar is a product of the evolutionary process because restraints on behavior are necessary for social living and have been favored by natural selection for survival. Friedrich Nietzsche was among those philosophers who argued for societal origin of rules of behavior which developed as cultures evolved.⁹⁷

Moral grammar, universal among people, is thought to have evolved to its present shape during the hunter-gatherer stage of our past, some 50,000 years ago through the mechanism of group selection as was suggested already by Nietzsche in a cultural context.

⁹⁶ Pascal Boyer, *Religion Explained. The Evolutionary Origin of Religious Thought* (New York: Basic Books, 2001). Marian Hillar, “What does Modern Science Say about the Origin of Religion” in *Dialogue and Universalism*, Vol. XXII, No. 4, 2012, pp. 111-120.

⁹⁷ Friedrich Nietzsche, *The Birth of Tragedy and The Genealogy of Morals*, translated by Francis Golffing, (New York: Anchor Books, 1990).