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Integral Theory, Science and Contemporary Human Condition

Essays below were published in the www.integralworld.net in the last several month (all in 2009). There are some overlappings which are not omitted here.

LIMITS OF SPIRITUAL ENLIGHTENMENT

The Theory of Bio-Social Discontinuity and Great Spiritual Traditions (with some Remarks about Ken Wilber)

The roots of spiritual traditions

Man can «search for meaning» only if (s)he lives an abnormal and meaningless life.

In popular culture and in many academic works the term «civilization» had a noble and sublime meaning for a long time. Civilization means to rise above the chaotic outer, wild, natural world and/or the aggressive inner human nature. To be «civilized» means to be moral, noble and rational. Idealization of civilization appear to be something normal, because there aren't opposite terms such as «noble savage» (there is no «noble citizen» or something like that in popular or scientific literature). But through the 20th century some other opinions began to show. Early opinions about the repressiveness of the civilized state - like Sigmund Freud's - still maintained a progressive although somewhat ambivalent perspective. Civilization is perhaps repressive, but still it's something «progressive» and «noble». There were some more positive valuations of «primitive»—mainly simple horticultural societies or, more rarely, hunter-gatherers - in scholarly literature, but they could be dismissed as a «fallacy of the noble savage».

Anthropogenic problems - or collective pathologies, like war, most diseases, interpersonal exploitation, state repression, pollution, ecological destruction, urban loneliness, violence and anomie etc. - are a fundamental characteristic of all complex societies. In the last 40 years or so many scientists and scholars - anthropologists, archeologists, historians, historic sociologists, biologists etc. - pointed out that recent human history, in the last 10.000 years from neolithic domestication onward, is not progressive but regressive, not in some moral sense, but in the sense of continual decline of quality of human life and continual increase of anthropogenic problems. Deeper causes of great anthropogenic problems and human misery lie not in capitalism or industrial society but in the beginnings of domestication and civilization (Diamond 1974, Fox 1989, Harris 1991, Maryanski-Turner 1992, Livingston 1994, Schmookler 1995, Shepard 1998a, 1998b, Sanderson 1999, Brody 2002, Horton 2000, Hughes 2001, Fagan 2004, Christian 2005, Ferguson 2006, Fry 2007, Rowe 2006, Ponting 2007...). Of course, there

are many inconsistencies and ambiguities in the works of these theorists - some of them think, for example, that industrial societies accomplish some kind of progress in comparison with agrarian civilizations, some are focusing on some problem like war, ignoring others - but classical linear progressivism and idealization of civilization as «rise-and-achievement» is definitively abandoned.

Darwinism or evolutionary biology made possible a scientific foundation of that perspective. Fact of recent emergence of complex human societies was clearly known in 19th century. But slow affirmation of neo-darwinism, on the basis of the so called "modern synthesis" in 1930s and 1940s, in the social science after 1960, made possible an explanation of deeper causes of anthropogenic problems. The fundamental characteristic of darwinian evolution is a non-directional genetical adaptation of living forms and species to some specific local environment. Darwinian evolution is random, not purposeful and with no «higher»/»lower» forms, no progressive direction, no process toward some goal, only opportunistic adaptation to local ecological conditions. That means that all species have some natural environment or, in the language of contemporary evolutionary psychology, environment of evolutionary adaptation. For humans, that environment is a clean and wild environment, ecologically, and small (20-30 members) nomadic groups, socially.

In the last 40 years or so many thinkers pointed out that humans are genetically adapted to these conditions in which our ancestors were living for hundred millions of years (ecological environment) or ten millions of years (social environment). That life, which is usually called hunter-gatherer society, we genetically never abandoned. Social changes were too fast for adequate genetical adaptation (Barash 1986, Fox 1989, Maryanski-Turner 1992, Boyden 1992, 2004, Schmookler 1995, Shepard 1998, 1998b, 1999, Morris 2004, Wilson 2003, 2004). Many darwinian thinkers, sociobiologists and evolutionary psychologists, pointed out the same position in the last 30 years. Of course, in the last 10.000 years increasing numbers of human beings were living in the fundamental different social and ecological conditions: agriculture, nomadic pastoralism, state, cities... but this is exactly a fundamental cause of human problems.

Neolithic domestication means a beginning of an ever increasing schism between human nature (which means adaptation to hunter-gatherer life) and an unnatural/abnormal social environment. Abandonment of natural social and ecological conditions in the last 10.000 years was the main cause of ever growing anthropogenic problems. Civilization is not a hard-won achievement but an abnormal society which generates many features of the pathological behaviour, especially in the industrial megacities. This perspective I called a "theory of bio-social discontinuity" and about that I recently wrote two books in Croatian (Markus 2006, 2008). The theory of bio-social discontinuity is not a fallacy of the noble savage. It has nothing to do with morality (nobleness), but only with genetical adaptation. an environment of evolutionary adaptation is not some kind of this-worldly paradise - there are many troubles and misfortunes in hunter-gatherer life (some disease, attack of predators, infanticide, some personal violence...)—but it's an optimal environment. «Optimal», namely, relatively the best environment for the satisfaction of fundamental human needs: community,

homeland, clean and wild environment, social and ecological stability, egalitarianity, peace etc. In hunter-gatherer society there can be personal murder, but not war, some sex- and age-distinction, but not class stratification, personal prestige but not state power, modification of environment (perhaps even extinction of several species by hunting) but not massive environmental destruction and pollution etc. This features of human behaviour remains inside some fundamental evolutionary parameters and they can be easily understood.

In general, the theory of bio-social discontinuity was criticized in the favor of cultural adaptation, namely, faith in plasticity of human behaviour and power of culture. This position was named a standard model of social sciences and was criticized in detail in new darwinian literature, especially sociobiology and evolutionary psychology (Wilson 2003, Barkow 2006, Buss 2007, Markus 2008). If man is a tabula rasa and culture is so powerful thing why are there so many anthropogenic problems and collective pathologies in all civilizations? They are symptoms of a very poor human adaptation. Thanks to culture, humans can create and survive in the abnormal conditions, even as slaves in the mines, but they can't prosper, namely, satisfy their fundamental needs. If a life of slaves or serfs in agrarian civilization is not a good life - because we are not genetically adapted to it - how can a life of workers or employee in industrial city, be a good life? This life does not have a foundation in our evolutionary past, too.

The irresistible attractiveness of meaningless and destructive consumption in modern society can be explained as compensation. Humans can't satisfy their vital needs - because they live in an unnatural society - and they are looking for material things and technological wonders. High *standard of living* becomes compensation for low *quality of living*. But human nature can't be deceived for a long time and humans are looking for peace, community, clean and wild environment etc. again and again. Human beings, like every other, have their own environment of evolutionary adaptation, namely they are genetically adapted to specific social and ecological conditions. This is the most important argument about biological continuity between man and other species, not culture, language, reason etc. Other species - or some of them - can have culture (transmission of informations by non-genetical means), language (different forms of communication), consciousness, reason and other abilities but we cannot emphasize that because it's a return to traditional perspective of «higher» and «lower» life-forms (other species are some kind of «primitive» humans or they have some abilities but on the «lower» level). This is a subjective approach, choose the criterion and win, not a scientific approach.

What about the «great spiritual traditions» or the «perennial philosophy»? Thinkers - philosophers and theologians - in the agrarian civilizations knew and could know nothing about the theory of bio-social discontinuity and about deep evolutionary time in which the human mind was framed. About million of years of hunter-gatherer life they knew nothing (so called «barbarians» chiefly meant pastoral nomads or simple horticulturalists). They thought that human history and civilization's history is the same. So, they thought that the fundamental cause of human misery and countless anthropogenic problems in their societies was some kind of moral failure in the human

mind: original sin in Christianity, bad heritage from previous life in Indian religions and philosophies or something like that. A «solution» would be some kind of spiritual «enlightenment» or man's rise «above» chaotic and repressive social conditions. That could mean, as in many philosophies, a more elitistic «solution» for a handful of thinkers or could have, as in axial religions, more democratic features.

These religions were originally a protest against anthropogenic problems and human misery in the agrarian civilizations and they offered a consolation for the miserable masses, faith in the afterlife (Christianity, Islam) or an escape from life altogether (Indian religions). On the other hand, they were quickly tied with powerful political structures in their societies and became an ideological defense of the existing political and economical conditions. Adherents of «great spiritual traditions» were humanistically educated philosophers and theologians. They know nothing, not only about evolution, but mainly about the wider natural world which sustained them and their societies. They were fiercely anthropocentric, believing in biological and ecological discontinuity. So, they looked for some inner insight (inside human mind), not for identification with wild natural and other species. Not much ecological consciousness here. Contemporary efforts for «greening» of traditional religions - eco-Christianity, eco-Islam etc. - are not much convincing. Of course, that doesn't mean that traditional religions are the cause of ecological and other anthropogenic problems. They are only consequences and symptoms of living in abnormal conditions. Real causes of ecological destruction and other problems always were (and are) material factors - especially demographic and technological expansion - which has no foundation in our evolutionary past and which didn't go by a test of natural selection. The theory of bio-social discontinuity is a materialistic, not idealistic theory. All spiritual traditions contain strong anti-naturalistic overtones or desire to "transcend" death and suffering (death denial), just like contemporary animal rights and other secular ideologies (technological medicine).

Modern secular ideologies - liberalism and its leftist heresies (marxism, anarchism and others)—offered secular salvation on this world by conquest of nature, technological expansion, increasing standard of living etc. That effort could eliminate or decrease some anthropogenic problems (like most infectious diseases or some worst kind of human exploitation), but many other problems are created or augmented. That can't be avoided because modern industrial society created even more gulf between human nature and unnatural society. Industrial megacities is the most unnatural environment in human history with abnormal social (competitiveness, loneliness, random violence, terrorism, breakdown of family...) and ecological (polluted, devastated, overpopulated, mechanized and plastic milieu, fit for robots but not for organic creature, adapted to wild natural world). Contemporary efforts for «greening» of secular ideologies - eco-liberalism, eco-marxism etc. - are not much convincing, too. They are basically secular versions of axial religions.

Accusation of human nature - instead of civilization—is alive and well today, even in many secular thinkers. Many Darwinians think that cause of anthropogenic problems is competitive and aggressive human nature, or a «dark side» of it. They often emphasize war and hierarchy which, presumably, has some foundation in human nature (Edgerton

1992, Sanderson 2001, LeBlanc 2003, Thayer 2004, Dyer 2006, Livingstone 2007, Gat 2008). This obviously reminds on the christian metaphysics of good (soul, reason) and bad (original sin) aspects of human nature and can be explained as it's secular version. This is quite ironic because many of these darwinians—Richard Dawkins is only the most famous - are combative atheists. But from a darwinian perspective this interpretation hasn't any sense at all. How is this radical dualism in human mind framed? How can natural selection frame two radical opposite forces in a of living being? How and when is it created? What is «dark side» and «bright side» in the other species - because they have to have it, too (biological continuity)?

Here is the problem: an antagonism between scientific and moral position. Great majority of darwinians are liberal humanists who believe in (modern) civilization, historical progress and contemporary liberal democracy. But liberalism is humanistic doctrine, basically a secular Christian heresy (marxism, anarchism, socialism are liberal heresies with more egalitarian overtones). There are strong tensions between scientific positions (which leads toward the theory of bio-social discontinuity) and moral/political positions (faith in progress and civilizations) among many darwinians. For many, civilization must be some kind of holy cow, which cannot be questioned. Standard model of social sciences (all or almost all human behavior follows from culture/social conditions) is replaced by standard model of social darwinism (all human behavior follows from genetical heritage), but it's only one possible interpretation. The other is a theory of bio-social discontinuity. About that I wrote in detail in my book (Markus 2008).

Here we can show the limits of «spiritual enlightenment». In hunter-gatherer societies there is no call for «rise above», «enlightenment», «spiritual wisdom» etc. It's not because hunter-gatherers are ignorant and primitive savages, but because they live in the optimal environment in which fundamental human needs can be satisfied. If humans have community, homeland, clean and wild environment, peace, egalitariness etc. why should they look for «enlightenment»? Among hunter-gatherers there are not ascending nor descending tradition (one of the crucial statements in Ken Wilber's theory). These positions have their roots in civilization. Ascending tradition (basically axial religions) meant to «rise above» abnormal social conditions in agrarian civilizations, and descending tradition (basically liberalism and other secular ideologies) is tied to the myth of «historical progress». If human beings live in the optimal - not: perfect - social and ecological conditions there is no need for «rise above» nor for «progress», because both concepts are symptoms of a deep dissatisfaction with existing living conditions.

Humanistic ideologies - from axial philosophies and religions to their modern secular versions - are constantly in «search for meaning». But man can «search for meaning» only if (s)he lives an abnormal and meaningless life. If this «search» is collective, this means that men are living in abnormal and unnatural society in which they cannot satisfy their fundamental needs. In the abnormal circumstances of civilizations «spiritual enlightenment» can be a sensible option for a handful of individuals but not for the vast majority of human beings. Efforts to accomplish «wisdom» and «rational life» in civilization can be enlightened and praiseworthy - surely better than destructive and meaningless consumption - but it is ultimately some kind of escape too, namely escape

from abnormal social conditions. Contemporary humans can escape to science, philosophy or art, not only to sex, TV, net, drugs and other consumer goods, but escape they must because they live in an unnatural society. Among hunter-gatherers there is no desire for transcending death or suffering, because they are a normal part of nature and life, not some abnormal phenomena.

Science is not a product of some historical particularity, like the so called scientific revolution of XVII. century or industrial society. Science has a foundation in the cognitive structures of human brain, which is the product of ten and hundred million of years of biological evolution. Science—as a method of comprehension of the world—existed in all human society, but in different forms, from knowledge of local environment to modern abstract and universal knowledge about evolution, Earth, cosmos etc. Science and modern science—and, especially, technology—are not the same thing. So, a defense of science isn't and can't mean a defense of some social and historical particularity, like industrial society or capitalism. In contrast, spiritual traditions were and are loaded with a metaphysical (non-empirical) and idealistic approach and they have no foundation in human nature. For that reason, science should not have some addition in lofty metaphysical theories.

Here we cannot write about the practical consequences of this idealistic approach in detail, but its prospect is not good either. Change of consciousness as «solution» of countless anthropogenic problems of contemporary societies? What about climatic change? Financial and economic crisis? Energy crisis or oil peak (end of era of cheap fossil fuels)? Wars and terrorism? Ecologist and anthropologist Paul Shepard called recent human history «a ten thousand years of crisis» (Shepard 1998a). The contemporary dismal state of humanity could be seen—as many radical ecological thinkers pointed out in the last 30-40 years—as the culmination of a path which began in the neolithic domestication. Environmental historians showed that many civilizations have collapsed because of the devastation of their environmental and energy basis (Hughes 2001, 2006, Ponting 2007). Global demographic (significant reduction of population) and social (reduction of political, cultural, technological and economical complexity) collapse—of course: not the end of the human species—is real possibility in the next 40-50 years.

The greatest threat are not so much climatic changes (as many ecological-minded people think), but the end of the era of cheap fossil fuels, which are absolutely crucial for the normal operation of mass industrial societies (Kunstler 2006, Heinberg 2004, 2005, Leggett 2006, Deffeyes 2008, Greer 2008, Newman 2008). For them, there are no real alternatives at hand, now or in the foreseeable future (so called «alternatives» are really technologies for production of electric energy, not some new energy sources and they are all only derivatives of fossil fuels). Oil peak (namely, great increase of energy price in the last several years) is deeper cause of recent deep recession—real end of «growth»—of global capitalist economy, not some new version of Great Depression of 1930s. In 2030 there will be about 8,5-9 billion of people and oil/gas for only 1,5 billion. How can help us a «change of consciousness» or «spiritual enlightenment» in all this mess? This can be helpful for this or that individual as consolation for living in abnormal social

circumstances and—nothing more. This is the problem for every idealistic approach, which is typical for spiritual traditions.

Case study: Ken Wilber

Wilber can't expect to be taken seriously by science, if he doesn't take science seriously.

the American thinker and transcendental philosopher Ken Wilber is probably the most notorious adherent of the «great spiritual tradition» today. His opus shows some typical limits of the traditional spiritual/idealistic approach. But first one personal remark. When I encountered Wilber's work ten years ago, in my twenties, I was very excited because of my youthful ideals about «spiritual values» and «moral enlightenment». But not today. The theory of bio-social discontinuity means a materialistic and naturalist perspective, because it sees material factors—evolutionary heritage, ecological and social circumstances—as fundamental. Wilber's position is clearly an idealistic one. His works abound in metaphysical speculations about «spirit», «mind», «evolution» (in a metaphysical sense) etc. In this we can or we can't believe, but we can't test it by empirical verification. the theory of bio-social discontinuity has more explanatory value because it can explain not only the cause of anthropogenic problems, but the cause and origin of the idealistic approach, like Wilber's, as well. In the worst cases, spiritual traditions were fossilized in religious dogmas and defense of authoritarian social regimes. In the best cases, the «wisdom» of great spiritual tradition was an affirmation of some fundamental human needs mentioned above. But it was always an extremely idealistic and anthropocentric perspective with a strong bias in favour of human exemptionalism, faith in biological (man is not an animal) and ecological (man is not a part of nature) discontinuity. Wilber thinks that the fundamental problem is «lack of understanding and mutual agreement in the noosphere» (Wilber 2000b). Well, that can think a well-to-do western intellectual, but this is hard to tell to countless victims of contemporary anthropogenic problems. And this is one more example of Wilber's ahistorical and idealistic approach.

A second problem with Wilber's work is that it belongs to the tradition of Indian mysticism, plus some version of idealistic western philosophy, like Hegel's. It hasn't any substantive connection with modern western science. Modern science contains a primacy of materialistic and naturalistic perspectives or statements which can be empirically tested. Some scientific discipline—physics, chemistry, astronomy—are not specially relevant for human beings and their societies. But others, like evolutionary biology, ecology or social sciences, have crucial significance. How much value does Wilber's work have from a scientific perspective? Not much. Some thinkers—D. Lane, A. Kazlev, F. Visser—pointed out Wilber's ignorance of evolutionary biology and contemporary evolutionary theories two-three years ago (their articles are on www.integralworld.net). About them—sociobiology, evolutionary psychology, darwinian anthropology, evolutionary sociology etc.—Wilber knows nothing except several incidental and always negative remarks. Wilber's concepts of evolution and devolution are remnants of the social evolutionary theories of the 19th century and they follow from their faith in «progress». But the concept of progress in the biological science was abandoned long time ago, as eminent historians of biological thought pointed out (Ruse 1996, 2006,

Bowler 2003). This concept can't have completely different meanings in science if we want to retain some theoretical coherence. For darwinians, only biological species evolve, not society, mind or «spirit».

Wilber's knowledge of the relevant social sciences is not much better. He doesn't know of scholarly criticism of faith in «historical progress», mentioned above. About the theory of bio-social discontinuity and many thinkers mentioned above Wilber says nothing. He maintains an anachronistic hobbesian perspective about hunter-gatherers (if he recognizes them at all, because they often write about «tribal/traditional/indigenous society» and similar vague and confusing terms), which has been abandoned long time ago. In his support, he does mention Gerhard Lenski (a historical sociologist who specialized in the history of civilization and who significantly changed his position from late 1980s onward) in one book (Wilber 2000b), and in the other he mentions—incredible but typical for him—a novelist: Michael Crichton (Wilber 2005). This utmost superficial approach speaks for itself (for various historical objections of Wilber's work see Rothberg-Kelly 1998, especially Juergen Kremer's article). Again, he need't concur with «revisionistic» historical social sciences but he should know it profoundly. Otherwise, he cannot be taken seriously.

Integral theory cannot be «integral» if it doesn't contain a profound knowledge about sciences, especially human-relevant sciences. But Wilber's theory is a closed and self-referential system, not a system of scientific hypotheses and theories which can be tested and refuted. So, not surprisingly, he founded an Integral Institute, even an Integral University. His disciples are hagiographers like Brad Reynolds, not serious and independent thinkers. His perhaps most popular work, *A Brief History of Everything*, contains a dialogue between Wilber and some laudable inquirer, who doesn't examine Wilber's work critically, but puts easy-to-answer questions (Wilber 2000b). In fact, this is not dialogue at all, but pure monologue.

Wilber can't expect to be taken seriously—surely not in the scientific community—if he doesn't take science seriously.

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TWO ROADS DIVERGING

Integral Theory and Contemporary Science

The concept of evolution is crucial for Integral Theory and it chiefly means pop-evolutionism

Modern science^[1] is characterized by a naturalistic and empirical approach. Hypotheses are testified by empirical facts. In science, „theory“ means coherent explanation of some problem or appearance, founded on many important facts, gathered over time and hypothesis means just let's suppose or, popularly called speculation. There is no place for supernatural agents – god(s), angels or spirit - in science, not because of some dogmatic materialism but because there is no – so far, at least - empirical verification for that. Scientific naturalism is methodological and not ontological, because science can't say anything about a possible existence of supernatural (or non-natural) agents in the lack of facts, but principally their existence is possible (Wilson 1998, Edis 2002, 2008, Bowler-Morus 2005, Perez 2008). It was – and is – incompatible with traditional axial religions, in the West especially Christianity.

But the naturalism and materialism of modern science was a threat for modern secular ideologies as well. Liberalism and several leftist liberal heresies (marxism, socialism, anarchism) inherited a deep-rooted belief in the human exemptionalism from axial religions, namely, belief that humans are not part of nature (but some special «social world», apart from nature) and not just animals (but something essentially different). Secular ideologies don't talk about supernatural agents and an immortal soul but they talk about «historical progress», «humanity», «culture», «history», „evolutionary upward movement“ etc. Human beings are special, not because of an immortal soul, but because of language, reason, history etc.

In part, secular ideologies are just secular versions of axial religion's metaphysics or humanistic ideologies adapted to new circumstances of the industrial society. But true scientific naturalism doesn't recognize any chasm in the natural realm, including human exemptionalism. Influence of humanistic heritage of secular ideologies can be seen especially in the social sciences, but also in the natural sciences. For example, the majority of darwinian biologists are, in their moral convictions, liberal humanists. That often means the existence of strong tensions between a naturalistic approach in science (evolutionary biology) and a humanistic approach in moral and politics. Some darwininists – Richard Dawkins is only the most notorious case - call for a «rise above» chaotic nature "red in tooth and claw", just as any religious and secular humanist.

This is a secular version of the Christian "valley of tears", dark vision of the natural world, typical for all axial religions.^[2] In the last 30-40 years there was a big affirmation of the naturalistic – darwinian and ecological – approach in the social sciences (anthropology, archeology, sociology etc.) but old humanistic and anti-naturalistic convictions remain very strong. Integral Theory maintains strong anti-naturalistic impulses because it often call for a „rise above“ our „animality“ into the „higher level of

spiritual life“. This is essentially a modern version of the ancient anti-naturalism of the axial religions, with which Integral Theory has many important connections.

Physics, astronomy or geology have not much significance for human history or human behaviour. But evolutionary biology was something different from the start. Charles Darwin (with A. R. Wallace) was the first man who offered a concrete means of working of the evolutionary processes. Later, in the modern synthesis of 1930-1950, his theory of natural selection was connected with mendelian genetics. Neo-darwinism means that evolution is a random and blind happening, without direction or progress. There is only random adaptation on changeable circumstances of the local environment. Darwin officially and sporadically used some progressive terms but he knew quite well – and we know that from his correspondence and private footnotes – that his vision of biological evolution is not progressive. But it was not congruent with popular belief, which identified evolution with progress.

In the 19th century "evolution"[\[3\]](#) usually meant some kind of purposeful and progressive (upward) movement toward «higher» forms of life (pop-evolutionism). It could include some supernatural agents (God), but it could remain within Earth's life as well because many secular thinkers replaced faith in God with faith in «historical progress». In biological evolution, pop-evolutionism meant the «ascent» from «primitive» to «higher» species, with man (then, usually white male European) at the top (anthropocentric vision). In the study of recent human history, «social evolution» meant a «progress» from «primitive» society toward «advanced» civilization with industrial civilization of 19th century Europe, at the top (civilization- and industrial-centric vision). The concept of «social evolution» was mainly abandoned in the first half of the 20th century in the social sciences, but progressive interpretation of recent human history remained.[\[4\]](#)

In science, the term «evolution» means primarily biological evolution by (neo)darwinian natural selection. For pop-evolutionism, «evolution» has a much broader meaning, becoming identical with any presumably «progressive» and purposeful change, from the cosmic Big Bang to social macrodynamics of recent human history. «Evolution» is, as quasi-neutral synonym for «progress» or «development», all what someone interprets as «progressive» or «upward» movement. Pop-evolutionism is a remnant of 19th century's myth of progress, still well and alive in the beginning of 21st century, because the myth of „historical progress“ is a fundamental metanarrative of the industrial societies, still dominant social realities. Many contemporary thinkers, from advocates of the „universe story“ (Swimme-Berry 1992, Berry 1999) to integral theorists, subscribe to an unscientific untestable notion of „progressive evolution“ in which humans are „emerging consciousness of the unfolding cosmos“. But in science one term, like „evolution“ in darwinian biology, can't be arbitrarily transferred to other domains.[\[5\]](#)

The fragmentation of scientific disciplines and a sense of meaninglessness of scientific explanation always caused dissatisfaction, often even hostility. One recent effort to overcome that is so called "integral theory".[\[6\]](#) The concept of evolution is crucial for Integral Theory and it chiefly means pop-evolutionism (evolution-as-progress or upward movement), not scientific darwinian evolution. Pop-evolutionism means – today, as in the

19th century – some kind of speculative philosophy at the best with no empirical foundation whatsoever. So far at least, Integral Theory hasn't any substantial connection with the natural sciences and, especially important, with evolutionary biology. Many critics recently warned about problems with Wilber's interpretation of neo-darwinism and darwinian evolution in general (Kazlev 2004, Lane 2006, Visser 2008a, 2008b, 2009a) and I can mention many Wilber's minor factual errors (f. e. Darwin was Spencer's friend and applied Spencer's evolutionary law on biology, Wilber 2001), but here it's unnecessary.

Integral Theory has no real connection with the natural sciences, but perhaps that is not a crucial defect. The majority of people, inside and outside of Academia, can accept without problems, if pressured, that biological evolution is NOT progressive, but what about human history? Integral Theory has basically an anthropological approach, because it is primarily interested in human beings, their societies, past and future. So, perhaps it is more relevant for an anthropological and historical context? What about the social sciences, especially the historical ones?

Integral Theory starts with some interpretations of recent human history, in the last 10.000 years or so (so called „social/cultural evolution“) and it would have some fundamental connection with anthropology, archeology, historical sociology, historiography and similar scientific disciplines. This is much a neglected topic in the contemporary debates over Integral Theory. There is one big methodological problem here. If one wants to build Integral Theory there has to be a significant consensus in some scientific area as, for example, the neo-darwinian approach in evolutionary biology or, broader, a naturalistic methodology in natural sciences. But in the contemporary social sciences there is no consensus, neither on methodology nor on interpretation.

Many -- probably the majority of -- social scientists, prefer a materialistic approach, with an emphasis on material factors as fundamental in human history: population, technology, politics, state, climate, genetics, soil erosion, warfare etc. This is incongruent with the basically idealistic approach of Integral Theory. True, among many scientists there is some mixture of materialistic and idealistic approaches, especially with regard to human particularity. There is a strong belief in human exemptionalism, the irrelevance of biological factors and the autonomy of „cultural evolution“. Even today, many social scientists completely ignore biological and ecological factors and affirm traditional humanistic explanations: only social factors matter. But many affirm biological or/and ecological factors as important explanative factors.

In the realm of valued interpretations of recent human history there is even much less consensus. Many social scientists still affirm a traditional, progressive outlook: human history is „progressive“ perhaps in a moral, but certainly in a technological and social sense. But many scientists have abandoned, partly or completely, a progressive interpretation. Today, and in the last 30-40 years, there are fierce debates over „social progress“, „social evolution“ (is there such thing at all?), ancient/recent roots of warfare^[7] and social hierarchy, ecological balance of different societies etc.

How can an Integral Theory be built if there is no consensus about anything important? In practice, some integral theorist can pick some opinion or hypothesis congruent with his/her position, because lack of consensus doesn't mean that anything goes. This is the deepest connection between Integral Theory and science. Unfortunately, the weight of evidence doesn't support the dominant interpretation of Integral Theory, which is methodologically idealistic and progressivistic in its interpretation. Among social sciences the materialistic approach is pretty much dominant and anti-progressive interpretations are very numerous and well-documented. In [Limits of Spiritual Enlightenment](#) I explained why I think that recent human history is not progressive, but regressive, not in any moral sense, but in the quality of human life (Markus 2009).

Some integral theorist can accept a progressive interpretation, as many scientists still do, but he/she has to be aware of the existence of completely contrary opinions and detailed criticism of the concept of «historical progress» and «progressive social evolution». Naive faith in «historical progress» has not completely disappeared – as happened with «progress» in evolutionary biology – but it has lost scientific credibility long ago. In general, as I pointed out in the last article (Markus 2009), knowledge of historical social sciences is very superficial and limited among Wilber and the majority of other integral theorists. This is big problem for a theory which wants to be historical and to speak of «social evolution».

Wilber and some other integral theorists (McIntosh 2007) even don't recognize several fundamental forms of human social organization, like simple and complex hunter-gatherers, simple and complex horticulturalists, pastoralists, agrarian civilizations and industrial societies. Instead, they often use vague and imprecise terms, with no scientific validity, like „tribal“, „warrior“, „mystical“... consciousness (McIntosh 2007). True, Wilber (2000) admitted that industrial society has much more problems than, for example, hunter-gatherers, but, he thinks, because of «more average depth of culture». But what does that mean, except a higher standard of living or techno-gadgetries which are not relevant for human life quality? Vague talk about „price of progress“, «stages of development» or «higher consciousness» was never true, but it is especially not much convincing in the light of the great social and ecological disasters in the the last 100 years.[\[8\]](#)

In [Limits of Spiritual Enlightenment](#) (Markus 2009) I was explaining the theory of "bio-social discontinuity" which explains anthropogenic problems as a consequences of the abandonment of our evolutionary social and ecological context, or hunter-gatherer life. Correct or not, this is a true scientific theory, which can be tested, corroborated or refuted with firm historical facts. Wilber and other pro-wilberian theorists don't even mention that theory. For Integral Theory, as an idealistic approach, roots of anthropogenic problems are some lack of moral/spiritual wisdom or insufficient enlightenment. This is a modern version of the quasi-argumentation of philosophers and theologians of agrarian civilization with their emphasis on some inner moral failure of human mind.

If history is progressive – namely, „progressive evolution“ of human consciousness or something like that – why are there no anthropogenic problems – as distinct from the

usual misfortunes - in hunter-gatherer societies? Are these problems the „price of progress“? But what does progress mean if it causes ever increasing human misery and a decreasing of quality of human living? Anthropogenic problems – the main features of all civilizations with a culmination in in the last 100 years – are the biggest problem for every progressivistic interpretation of the human history. Great megacities of industrial societies are the most unnatural environment in human history, in which basic human needs cannot be satisfied and which continually cause pathological and destructive behaviour.^[9] What does „progress“ mean here except mindless and destructive consumption, including shopping-for-spirituality? It looks strangely to think that «the most primitive level of consciousness» exists in (hunter-gatherer) society where there were/are not anthropogenic problems at all and even more strange that «the highest level of consciousness» exists in a society in which absolutely dominates the most absurd and destructive lifestyle ever and in which anthropogenic problems abound.

If the theory of bio-social discontinuity is basically correct, there is no such thing as «modernity». Industrial societies of the last 150-200 years are just a continuation – with some significant changes – of the fundamental processes of the last several thousand years: demographic and technological expansion, urbanization, state-power, militarism, ecological destruction etc. «Noble aspects» of «modernity – which are particularly often emphasized by Michael Zimmerman (1994, 1998, 2000, 2003a) – are just the limited decrease of some anthropogenic problems (as contagious diseases or big social inequalities) typical for agrarian civilization, but with an increase of many other problems. Fundamental comparison can't be between agrarian civilizations and industrial societies – because they are all product of social macrodynamics which is the root of anthropogenic problems – but between civilization and (simple) hunter-gatherer society, which is our evolutionary context, a way of life which encompasses 99,99 % of human history and which we genetically never abandoned.

Industrial societies of the 20th century and today can be «democratic» (perhaps) if we compare them with agrarian civilizations but certainly not if comparison is with (simple) hunter-gatherers. In every civilization there is a rule of manipulative and powerful elites which can refer to the will of God or the People. For me, as a historian, the program of (wilberian) Integral Theory as a whole, in the scientific sense at least, fails if its explanation of the recent human history is wrong. A wrong explanation of the human history is fatal for Integral Theory as a primarily anthropological (human-interested) approach. We shouldn't even talk about evolutionary biology and other natural sciences.

Integral Theory is basically an idealistic position because it talks about „spirit“, „consciousness“, „values“, worldviews“ etc. as fundamental factors in human history and even wider.^[10] So, there is a tendency to blame some intellectual factors for anthropogenic problems, especially modern science with its fragmentation, reductionism, materialism («flatland»), atomism etc. This is often not only among pro-wilberian integral theorists (Holick 2006, McIntosh 2007) but many other, especially radical ecological critics as well (Capra 1984, Sheldrake 1994, Marshall 1994, Goldsmith 1998).^[11] Here Integral Theory is not far away from religious conservatives and their ideological attacks on science. But it is the same mistake as to blame „capitalism“ among

leftists or „industrialism“ in radical ecological circles. Fundamental problems of modern civilization – wars, pollution, resource depletion, urban crime and anomie, destruction of wild habitats and species, interpersonal exploitation etc. – existed in the agrarian civilizations as well, more or less the same.

But there was no modern science – and no capitalism or industrialism – in these societies. Same phenomenons have to have the same cause(s). The theory of bio-social discontinuity can offer a simple, logical and science-grounded explanation. But it can't be reconciled with any idealistic and progressive approach. Scientific illiteracy – indifference or, even, hostility (creationism in the USA) toward science – among the vast majority of urban-industrial population is one another reason why modern science can't be blamed for the sense of absurdity and meaningless. The average adult man of industrial society has no real connection with science and scientific education in his/her life but he/she suffers from an intense sense of meaningless. Perhaps because of living in unnatural urban-industrial society, an environment completely alien to the human animal, but certainly not because modern science is «naturalistic», «mechanistic», „atomistic“, „reductionistic“ or whatever. Accusations against science are frequently rooted in identification (or, ironically, reduction) of science with physics (fallacy of physicalism), a frequent mistake in Wilber's theory. From psychics – or chemistry, astronomy or geology –there really can't be deduced anything normative, only a morally meaningless picture of the world. But evolutionary biology, with its optimal genetic adaption within natural world, is something different.[\[12\]](#)

Ignorance of Wilber's philosophy in academic circles is well known (Visser 2008a, 2008b) and there is only one Integral Studies Department in one (JFK) university till know. This is too small to call it the „[academic emergence of integral theory](#)“ (Forman-Esboern-Hargens 2008). Perhaps it will change in the near future because there is much intellectual activity in the Integral Institute, with many young scholars and well edited *Journal of Integral Theory and Practice*. The deepening of the mega-crisis and collapse of industrial societies (about that in the next article) can strenghten idealistic convictions and faith in «right worldview» as «solution». But in wilberian-form, Integral Theory can't offer anything substantial to science and can maintain just some version of speculative philosophy or intellectual version of New Age spirituality.

So far, integral theorists were completely ignoring the theory of bio-social discontinuity, even in polemical form: it seems that they simply don't know about it. Among authors sympathetic to Wilber, there is only one academic intellectual – prof. Michael Zimmerman from the University of Colorado, Boulder – who has a long-standing academic career, with several academic books and many peer-reviewed articles. But Zimmerman's ecological philosophy is not „wilberian“ in any substantial sense, because he just accepts some Wilber's general interpretation, like progressive perspective of recent human history („progressive social evolution“) plus vague talk about „spirit“ and „spiritual development“ (Zimmerman 1994, 1998, 2000, 2001, 2003a, 2003b). Basically, Zimmerman ecological philosophy, after his heideggerian- and deep ecology-phase, is, with some critical remarks, one version of liberal modernistic, progressive and humanistic approach, founded on acceptance of contemporary liberal democracy.[\[13\]](#)

Basically, Integral Theory is a modern version of the so called perennial tradition or perennial philosophy (especially hegelianism) adapted to circumstances of the late industrial society, especially pop-evolutionism, «enlightened» neoliberal globalization and New Age's «hunting-for-spirituality».[14] Wilber's disciples and colleagues often represent their Master's theory as a scientifically well-informed and founded position (Howard 2005, Reynolds 2006, McIntosh 2007, Esbjorn-Hargens-Zimmerman 2009), but this is hard to accept. The scientific credentials of Integral Theory are very bad and don't not confirm its pretension about «inclusion» and «transcendence» of science.

Integral Theory can legitimately argue for a philosophical (non-scientific) approach, but certainly not for the „inclusion“ and „transcendence“ of science. But this is not the worst news. Perhaps Integral Theory can have pure moral or spiritual significance for middle-class urban men, some kind of temporary escape from the absurd and stressful everyday life of urban-industrial society, less destructive than drugs, alcohol or fast cars and more «enlightened» than TV or internet. Perhaps Integral Theory can fulfil big emptiness in the (some) human minds and offer some kind of consolation or „quest for meaning“ (but, then, this is not theory at all, but some kind of spiritual therapy with purely practical goals). But, in our next article, we will see that it won't work well either.

NOTES

[1] Science here means a theoretical body of hypotheses, theories and knowledge about the natural world, including human societies. Science is different from technology, the goal of which is manipulation and control. As continental European, I include social disciplines (anthropology, archeology, sociology etc) among science, not just natural (physics, biology, astronomy etc.) disciplines. The world is one and human beings and societies are part of nature. So there is no dualism between the natural and the social world. The human social world is one part of the natural world, just as the social world of ants or wolfs (in the name of convenience here I am using the term „natural sciences“ and „social sciences“ but the latter are really human sciences, their topic are the human condition). But theory can also mean a kind of general intellectual position or abstract interpretation. In that second sense I use term «integral theory» here. In the first sense, Integral Theory is much more philosophy – or an intellectual version of New Age spirituality - because it's pretty much speculative and a quasi-integral approach which has no basis in the natural and social sciences. It usually means a highly selective approach: pick up these, pick up that, and ignore what you don't like. Although misleading, the term «integral» (different authors use that term in very different context and with very different meaning as convenient phrase) is here maintained because it is used by its adherents. A more convenient term, for much of that kind of thinking, would be «wilberian theory» or «wilberianism» (something similar to «marxism» and with much more convenience because the Master is still here, alive and well), often even "orthodox wilberianism". In his own words, Wilber has ceased responding to critics and is devoting himself to working exclusively with individuals who understand the integral (that is, wilberian) approach (Ken Wilber Online: wilber.shambhala.com). This is exactly how marxists talked: you can't criticize Marx, because if you do that, you didn't understand him. Only some internal critique is permissible (perhaps). This is surely not «including»

of objective scientific approach. It's not strange that many people accuse Wilber of dogmatism.

[2] This fact also confirms that science's naturalism is not product of dogmatic faith – as constantly argued by religious conservatives, but also by Wilber and many contemporary integral theorists - because all fanatics firmly believe that their dogmas – God, liberal free market, communist utopia or whatever – are something valuable above everything else. Many scientists personally don't like naturalism and materialism which they are practicing in their sciences, because morally they are still (liberal, marxist, christian...) humanists. Many scientists happily accept faith in historical progress, but they know that „progress“ has been banished from the natural sciences completely and from social sciences partly.

[3] From 1860s to 1920s «darwinism» usually was identical with pop-evolutionism, not with Darwin's theory of natural selection. Later, after the modern synthesis «darwinism» meant neo-darwinism, a combination of the theory of natural selection and mendelian genetics and with no any references to «progress». See: Ruse 2000, 2006, 2009; Bowler 2003.

[4] About the fate of the term «social evolution» in the social sciences see: Harris 2001, Pluciennik 2005, Sanderson 2007. Contemporary social evolutionists, like sociologist Stephen Sanderson, are far away from naive progressivism, which is often typical for Integral Theory and ground their theory in neodarwinism, namely their social evolutionism is one aspect of the broad inroad of neodarwinism into the social sciences. This is anathema for Wilber and other integral theorists, because they argue for a slightly updated traditional social evolutionism from the 19th century (especially the anachronistic analogy between social/personal „stages of development“), or incorporation of traditional social evolutionism into the dynamized Great Nest of Being. For me, there is no such thing as „social/cultural evolution“, just social macrodynamics or fast – from perspective of slow darwinian evolution - social changes from neolithic domestication to contemporary global industrial civilization.

[5] The popularity of pop-evolutionism is one of the many symptoms of very small significance for real science, as theoretical body of knowledge, outside narrow academic circles. The vast majority of the population of the so called «advanced societies» and «scientific cultures» in Europe, North America and Australia are scientifically more or less illiterate. Popular (and wrong) perceptions about the great significance of science is mainly caused by its confusion with technology. Many attacks on science, especially in postmodern and radical ecological circles, are rooted in these confusion. Wilber and other integral theorists are making the mistake of overrating the significance of science all the time. For example, Wilber argues that scientific materialism is the «official» worldview of the modern West (Wilber 2000:224) and other integral theorists concur (Zimmerman 1994, 1998, 2001, Reynolds 2006, McIntosh 2007, Esbjörn-Hargens-Zimmerman 2009). In fact, the official worldview is the neoliberal ideology with a blind faith in «historical progress», consumption-as-wellbeing, free market (and state, in crisis, as now) and technological «miracles». It has nothing to do with science, in which anti-progressivistic

convictions are widely accepted. In some earlier works Michael Zimmerman warned that progressivistic interpretation of changes in natural science, especially wilberian-like, is very rare and problematic (Zimmerman 1998) but in some later works he argued for different conclusions.

[6] Here Integral Theory means basically Ken Wilber's transpersonal philosophy and the broad literature associated with him, although there is at least one another significant contemporary thinker – the Hungarian Ervin Laszlo – who also argues for «integral theory». Some positions – like historical determinism or level of reality (a favourite topic in the perennial traditions) or supernatural agents are not crucial for Integral Theory, but the idealistic (primacy of ideas/worldviews/consciousness, but NOT negation of objective existence of the exterior world) and progressive (change, especially historical one, is „progressive“) approach is crucial. For Wilber's AQAL-model, ideas of „upward evolutionary movement“ and „progressive development“, especially in human „social evolution“, are certainly fundamental in all his „phases“.

[7] The question of warfare is a good example of the difference of opinions. There was a real explosion in the academic literature about the «origin of war» - the term has very different definitions by different authors - in the last 10 years or so (Keeley 1996, Kelly 2000, LeBlanc 2004, Fry 2006, 2007, Arkush-Allen 2006, Ferguson 2006, Gat 2008). Some theorists argue for the ancient (especially many darwinians) and some (many cultural anthropologists and archeologists) for the recent (after neolithic domestication) origin of war. Not surprisingly, integral theorists argue for the ancient origin of war (Wilber 2000), which has to be „overcome“ by attaining of „higher level of consciousness“. In my opinion, some anthropologists and archeologist - Douglas Fry, Jonathan Haas and Brian Ferguson especially - were convincingly demonstrating that second interpretation, especially if applied to simple hunter-gatherers, as a correct one. This is congruent with logic also, because if war is an ancient phenomenon it would have some genetic roots and genetic adaptation. But human beings – in distinction from some ant species - were and are very poorly adapted to war, as many things testify: conscription, strong military drill, war-mongering ideologies, demonization of enemy, promise of this- and other-wordly rewards, use of narcotics, in- and post-war stresses etc. Wilber (2000) argued that hunter-gatherers «invented» warfare and slavery, but it was (perhaps, we don't know for sure) so only with complex and sedentary hunter-gatherers, one rare and recent anomaly in human history. The crucial point is when war and hierarchy become regular/frequent phenomena and a means to „resolve“ conflict between and inside human communities and the evidence gives a clear answer: after neolithic domestication. Some integral thinkers quote scholarly literature for consensus about this issue, for example, the ecological destruction in so called «tribal» or «indigenous» societies (Esbjörn-Hagens-Zimmerman 2009). But such consensus doesn't exist and such vague terms are scientifically useless.

[8] In one future article I will analyze Wilber's historical and social views, especially about recent human history and industrial society, in detail.

[9] Wilber (2000) argued that the materialistic approach – which admits the natural world as the only reality – is a part of «industrial ontology». But the theory of bio-social discontinuity shows that this is not so. The essence of «industrial ontology» - in liberalism, communism and fascism - is not naturalism or scientific materialism at all, but a faith in «historical progress» and the conquest of (wild) nature with technological and demographic expansion. It sounds very strange that Paul Shepard – perhaps the most radical ecological thinker ever – was part of «industrial ontology» because he belonged to – «descent tradition».

[10] The idealistic approach of Integral Theory can be seen also in explanations of the creation of modern (industrial) civilization. Integral theorists usually mention science, «enlightenment», «modern worldview» and similar things. In fact, one single factor – the discovery of new energy sources (fossil fuels: first coal, then oil and gas) – was absolutely crucial (see my next article). But such interpretation belongs to the... flatland.

[11] Widespread hostility toward science within radical ecological circles, especially deep ecology, is regretful, because there are some fundamental common points, like ecological (man is a part of nature) and biological (man is just an animal species) continuity. [Paul Shepard's](#) theory is an exemplary case of what scientifically informed – but also radical - ecological philosophy should be (Shepard, 1996, 1998, 1999). I wrote one extensive article about Shepard's ecological philosophy on my web-page (www.isp.hr/~tmarkus/) but for now only in Croatian.

[12] The theory of bio-social discontinuity answers affirmatively on the long-standing question: can science tell us how we should live or what a good life is. We can't accept the so-called naturalistic fallacy because if moral principles can't be founded and deduced from facts, from what can they be deduced? Certainly not from illusion or lies. If science can tell us nothing about the good life, who or what can? The State? The Church? Mass media? Spirit of Evolution? Or is the good life something completely subjectivistic and relativistic (anything goes), depending on personal whims and caprices? But here science means only Darwinian biology, not physics or astronomy. There is one normative principle which can be deduced from evolutionary biology: every living being and every species should live in the natural context – or environment of evolutionary adaptation – that is, ecological and, for social beings, social environment on which that species is genetically adapted and for which natural selection prepared it. A lion should live in Africa's savanna, polar bears should live in the North and South Pole etc., because that is their evolutionary context, not a zoo-cage. And human being? Of course, he/she should live as hunter-gatherer, in small nomadic groups in wild nature, as our ancestors were living for millions of years. This is in principle regardless if it's practically possible or not. Typical accusations of the „noble savage“ are here irrelevant because – it must be constantly repeated - the theory of bio-social discontinuity has nothing to do with morality, only with genetic adaptation (see: Markus 2009). Contemporary Darwinians rarely mention that, even those who talk about the adaptive gulf, because of their personal political and moral convictions (for liberal and other humanists civilization must be some kind of „achievement“ and „elevation“ above brutal and chaotic natural world). True, Darwin and many Darwinians were and are over-emphasizing competition, but it's remnant of the

malthusian hypothesis (ever increasing demographic pressure in the finite world), which was abandoned in evolutionary biology long ago. Darwin's theory of natural selection can exist without the malthusian hypothesis and, hence, without the primacy of competition and a dark vision of natural world. In nature, both cooperation/symbiosis and competition have a more or less equally significant place. Without the malthusian hypothesis, the natural world doesn't become paradise, but it's not hell or a bloody battlefield either against which man must to «rise above».

[13] I will write a detailed critical review of prof. Zimmerman's (co-authored with Esbjorn-Hargens) new book *Integral Ecology* (Esbjoern-Hargens-Zimmerman 2009), which has many good points and high-level scholarship but suffers from all defects of the wilberian approach. Their book is an interesting case, not of integral, but wilberian ecology.

[14] I agree with Frank Visser who has argued, in a recent article, that Wilber's theory, even in its post-metaphysical phase, is much closer to the perennial tradition than to modern science (Visser 2009b). Emphasizing „Spirit“ (i.e. evolution as Spirit-in-Action) his theory remains firmly anchored in axial metaphysics despite his statements about „integral post-metaphysics“ in the Wilber-5 Phase. Wilber was frequently criticizing New Age, but there are many common points between his theory and New Age spirituality, especially his critique of „modern materialism“ and the typical postmodern „search for meaning/spirituality“. From the perspective of science at least, Integral Theory has to be seen as one aspect of New Age spirituality. The main objections to Wilber's Integral Theory can also be adressed to Laszlo's theory of the akashic field (a fundamental energy and information-carrying field), because it also has no basis in neo-darwinian biology and the social sciences (Laszlo 2007, 2008).

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TWILIGHT IN THE INTEGRAL WORLD

Integral Theory and the Desintegration of Industrial Civilization

The vast majority of people – public, mass media, political and economic elites – are not aware how serious the human predicament is.

In the previous article "[Two Roads Diverging](#)" I explained the inadequacy of Integral Theory as a theoretical approach, because of its incongruence with modern science. Here I'll try to show that Integral Theory can't do good job on the practical side – as spiritual therapy – either. But, first, I have to say something about the contemporary deep crisis of industrial civilization in a historical context, a problem very little mentioned on the pages of Integral World so far.

Hunter-gatherer societies are the only really long-term sustainable society, not because some «nobleness», but because of the human genetic adaptation to this form of social organization. Hunter-gatherers were intervening in the natural world – chiefly with hunting and fire – but it has always remained the wild natural world or our natural evolutionary context. In the worst case, some groups of hunter-gatherers – like in Australia ca. 50.000 years ago or in North America ca 12.000 years ago – could make extinct several species of mega-fauna. We don't know that for sure because of very poor archeological evidence, but, if true, it didn't have a big ecological significance in the context of several millions of years (20-30 species today disappear in just several hours).

With neolithic domestication begins a continual destruction of wild habitats (especially forests and marshlands) and species, soil erosion, and an ever increasing simplification of bio-diversity. Demographic increase was the main cause of ecological destruction in the agrarian civilization and, in some cases (classic Maya, Sumer, Roman Empire etc.), caused or significantly contributed to the decline and collapse of these complex societies. Demographic expansion and periodical collapse and then expansion again, was a typical characteristic of complex agrarian societies.[\[1\]](#)

Wood and labour of living beings (humans and domestic animals) were the chief sources of energy in the agrarian civilizations. So, the vast majority of the population had to live as peasants and in an urban environment – cities and towns – were living only 5-10 % of the population. Industrial societies, with mass urbanization and mechanization, in the last 200 years are created by finding and exploiting new energy sources: coal as fundamental mover of the first and oil and gas as movers of the second industrial revolution. Fossil fuels are the main factor in creating an industrial civilization in the 19th and 20th century.[\[2\]](#) Faith in «historical progress» - the fundamental metanarrative of all modern secular ideologies (and typical for Integral Theory as well) – was created due to the discovery of the New World, but became widespread due to new energy sources. All industrial megastructure was building on the fossil fuels.

Energy – and in industrial society this means fossil fuels – is not one aspect of economy or one resource among others, as economists think, but *the* basis of all economy and the

fundamental resource for all others. Oil and other fossil fuels are the life-blood of the industrial economy and for all important activities: manufacturing, transport, agriculture,[\[3\]](#) industrial and mass-production, tourism, military, mining, production of electricity etc. Without them, nothing can work. The golden age of neoliberal globalization, in the 1980s and 1990s and till recently, was possible only because of the constant flow of cheap energy in the world of trade.

Fossil fuels are non-renewable energy sources and there were always warnings about their exhaustion, especially oil, from the 1920s on. But the discovery of new oil-fields were coming up continuously, with a big discovery first in North America in the 1920s and 1930s and then in the Middle East after 1950. The peak of discovery was in 1960s, but, although there were some big findings after that, as in the North Sea in the 1970s, the tempo of discovery was continuously slowing down. American geologist King M. Hubbert predicted in 1956 that *peak oil*[\[4\]](#) for the USA (lower 48 states) will peak in 1970 – as Integral Theory did. Hubbert predicted peak oil for world-production in 2000, but nobody listened to him and he died in 1989, forgotten. A first (1973) and second (1979) oil shock clearly showed up the big vulnerability of „advanced“ industrial society on oil import, especially from the Middle East and that dependence was steadily increasing. The USA was importing ca. 30% of its oil in the 1970s, and today imports ca 70%.[\[5\]](#)

The first and second oil shock caused big problems and interruptions of normal functioning of western economies, but their effect did not last for long because they were caused by political factors – the Arabian embargo and Iranian revolution – which change quickly. The discovery and exploitation of a big Western oil field in the North Sea and Alaska from the 1970s on mitigated the situation as well and helped in the overcoming of the energy crisis. But these shocks were an early warning for the future. From 1985. to 2002, the average price of oil was 15-20 d/b: the basis for the so called informational revolution. After 2002, the price was, with minor fluctuations, continuously, rising until the summer of 2008. In that period the average price of oil was 70 d/b and even more if we take the period 2006-2008. The great oil spike 2007-2008, with a price of 148 d/b in early summer 2008, was partly caused by stock market speculations, but only because of expectations of an ever increasing demand.

In the last 15-20 years there were the last big industrial revolution in China, India and some other „developing“ countries. Demand was growing fast but supply was growing much more slowly, especially after 2004. At the end of 2004, the world production of all liquids (oil, gas, ethanol) was ca. 85 millions of barrel and in the early summer of 2008, when extraction-efforts were at maximum due to very high prices, was ca. 87,2 millions of barrel. This is the so called *peak plateau*, when world production is more or less flat and can't be significantly increased, no matter how high prices are. Unlike the first and the second oil shock, which were caused by artificial shortage, the third was caused by objective geological limits. The OPEC was controlling oil prices from 1970s to ca. 2002 and Saudi Arabi was a so called swing (crucial) producer, but in the last several years this was not the case anymore.

A big increase in oil price was the main cause of the contemporary economic crisis – the economy can't normally function without abundant cheap energy – and there is only the question what was the cause for that. Facts tell us that the chief reason was an ever more unfavourable relation between increasing demand and stagnating supply. Some authorities, like the International Agency Energy (IAE) think that the chief reason of the third oil shock was a lack of investment (in tankers, drill-technologies, refineries etc.) due to low oil prices in 1985-2002. That is the opinion of many analysts, especially those working inside the oil industry or some pro-government agencies, like IAE or CERA (Mills 2008, Yergin 2008). But that can't explain the lack of investment after 2002, when oil prices was going up. Oil companies know that available (namely, suitable for extraction with favourable relation of EROEI, "energy returned over energy invested") oil reserves are much smaller than is officially stated and that big investments will not be worth the trouble. In oil business investments can be profitable after ten and more years, but for ten years there will be (much) less oil than now, so – no big investments.

For mainstream economists – only academic intellectuals with some measure of political influence – the basis of the economy is money, not energy. So, their advice to governments is: pump the money into the bank system, give stimulus packages and bail-outs, run strong fiscal politics and the economy will recover. This is, they think, just a „recessive cycle“, one among many, perhaps a bit stronger and longer than usual. These measures can bring some short-term effects, like a very limited revival of economic activity in the middle of this year – but in the long-term it goes nowhere. It only creates new problems, like the great dangers of a dollar-collapse and deficit-bubble which can easily explode and create a fast deepening of the economic crisis.

At this moment in time, we are in the middle of the first (introductory) phase of a megacrisis, when world oil production is flat. In the next several years we can expect the deepening of the crisis with a further rise of unemployment and a decrease of demand due to high oil prices (cca 70 d/b is the minimal acceptable price for OPEC). The second phase will begin when production will start to fall from peak plateau, at first slow, then faster, probably after 2012, perhaps even earlier, depending on demand and OPEC's capability to compensate for non-OPEC's continual falling production. This will be the start a real crisis with an increase of mass unemployment, inflation and prices, no matter of the demand. Mass discontentment, strikes and street unrest are a very real possibility in the next couple of years, because, without the constant supply of the cheap (or not too expensive, as now) energy, big cities are casks of gunpowder.

In the further future, after 2020, we can expect a real desintegration of industrial societies and processes of demographic (decrease of population) and social (decrease of political, technological and economic complexity) collapse. In 2030 the world oil production will be half of the 2008-level, with ca. 8,5 billions humans, not a rosy prospect in any case. This is not apocalypse or doomsday thinking, but a new case of collapse of complex societies, one among many in recent human history and a frequent topic of scientific study.^[6] Peak oil means also peak population, which will grow for the next several years, little bit above 7 billion, and then start to fall. The recent drop of oil prices is payed for future supply crunch (psychical shortage of oil in the next 3-4 years) because many

projects of discovery of oil fields and investments are cancelled. Economic activity can rebound a little (as in the summer of 2009) in the short-term because of government's fiscal politics (bail-outs, stimulus packages etc.) but a long-term and real recovery can't be attained without a return of the era of abundant cheap energy. But from what can this energy come?

The vast majority of people – public, mass media, political and economic elites – are not aware how serious the human predicament is. There is a widespread hope that either oil reserves are huge, or we can develop alternative energy sources, just on time «to leave oil before oil leaves us». New American president Barack Obama's program for «clean energy» and «clean technologies» has very wide support and popularity inside and outside the USA. So called transition towns in New Zealand, USA and several other countries are part of these wishes and programs. But this is a big illusion and a symptom of faith in technological miracles, very often a phenomenon in industrial society. Unfortunately, there is no such thing as «alternatives».

So called alternatives – nuclear power, solar, wind, geothermal etc. – are just technologies for electric energy production. Technology is not energy and «alternatives» are really just derivatives of fossil fuels. That means, we must have vast amounts of cheap oil and gas for the development of alternative technologies, but, because of peak oil, we haven't. It takes «oil energy» to make «alternative energy». In the post-peak oil world development of «alternatives» will mean a big increase of demand for oil and gas, price will go up and the economy will or crash or retreat into an even deeper recession. Development of «alternatives» is possible only by constant economic growth, but the fundamental precondition for it is cheap energy – and the circle is closed.

«Alternative» forms of energy simply can't replace 30 billion annual barrels of oil (the problem of «net energy»). There are other problems with «alternatives» as hard collecting, because sun, wind or water are not simply in the ground, as oil, gas and coal are, but they are not always available and depend much on (fast changing) climate. Nuclear power, which only can produce bigger quantities of electricity, is too expensive and dangerous (terrorism, weapons, waste). Second, there is simply no time for such massive energy transition. The first oil shock (1973) was a good (but wasted) opportunity for the beginning of the energy transition, because it takes ca. 30-50 years. The increasing supply gap in the next 20 years or so can't be closed by all other energy sources combined. Investing in «alternatives» means a waste of money.^[7] So, the era of cheap energy can't be returned and without it there will be no long-term recovery. Mainstream economists simply can't understand that because for them resource shortage is not possible. If prices go up either production will be increased or alternatives will be found quickly. But today neither is possible.

The contemporary crisis of industrial civilization and the process of its gradual disintegration has very serious implications for Integral Theory. Basically, Integral Theory can be explained as a defense of some «enlightened» or «spiritual» version of neoliberal globalization and global industrial civilization. That is, integral theorists are surely not apologetes for mass consumer society,^[8] rampant capitalism and free-market

fundamentalism, military adventures, fanatical (religious and secular) ideologies, intolerance toward other nations or races or any other similar collective pathology.

Integral Theory has much to say about these and other problematic behaviours of contemporary industrial societies. The ideal of Integral Theory is some «new civilization» or an „integral global village“ without war, ecological destruction, big inequality and with peace, stability, prosperity and equality among and within nations. In this new civilization prosperity and wellbeing will not be identified with mindless consumption but with some «spiritual enlightenment» and a «higher level of consciousness». „Moderate“ modernism should preserve the „positive aspects“ of „modernity“ plus „enlightened“ values of the „New Paradigm“. There is presumably some hope that we are entering into a new (informational?) age.[9] This is the main reason why Wilber's theory, and Integral Theory in general, can easily attract many followers: criticism of many bad phenomena in contemporary society (not Fukuyama's «end of history»-like apology), but a maintenance of faith in the fundamental modern narrative: history has meaning after all, it's not just a meaningless struggle of civilized humans with anthropogenic problems.

Historical, social and technological progress + personal spiritual enlightenment: who can argue against that? But, unfortunately, science doesn't recognize wishful thinking and personal wishes.

Here we can ignore the question: is Integral Theory a realistic option and is there some hope of «spiritual enlightenment» of typical middle class members of urban-industrial society? (the answer is, of course, negative on both questions). The fundamental problem is something else. In one previous article (Markus 2009) I wrote about the «[limits of spiritual enlightenment](#)» but there the continual existence of industrial society was presupposed. But what if this society has no future at all? Integral theorists take the maintenance of industrial civilization for granted[10] and urge for a «progress of consciousness» among its citizens (chiefly members of the urban middle class). Satisfaction of basic material needs of the majority of members of „advanced“ societies are taken for granted. If the above mentioned scenarios – about the collapse of industrial mega-structures in the near future – are correct, Integral Theory has no sense and its goals lead nowhere. If the lack of connection with natural and social sciences means the failure of Integral Theory as scientific effort, then the collapse of industrial society means its failure as practical effort. Integral Theory is, in that case, just another idealistic effort to correct problems which are founded in material – ecological/geological, but also biological (lack of genetic adaptation, see previous article) – circumstances.[11]

In other words, Integral Theory doesn't specially matter how high a «level of consciousness» or «spiritual enlightenment» members of industrial societies can achieve if their whole way of life is not sustainable. No matter how «enlightened» and «rational», men and women remain members of an outdated urban-industrial mega-structure, dependent on a fossil-fuels economy. The message of Integral Theory can be attractive for well-educated members of industrial society when – and only when – this society is still relatively stable and secure, with an ever growing economy inside and a constant

import of vital resources outside. But this era is more-less at the end. Of course, integral theorists can think that the thesis of collapse of industrial society is just wrong «doomday thinking» and «hysteria» - in fact, even if wrong, it's a legitimate scientific problem – but they can't ignore these problematic and relevant literature.

There was not a single article in the *Journal of Integral Theory and Practice* (14 issues so far) about the energy crisis and peak oil. In general, Integral Theory it is amazing how little the majority of integral theorists – M. Zimmerman and S. Esbjorn-Hargens are laudable exceptions – have to say about the so called ecological crisis, from climate change to the [sixth great extinction](#). But, so far at least, they said nothing about the most important event (peak oil, the end of the era of cheap fossil fuels) and process (the end of the era of fossil fuels and desintegration of industrial civilization) of our time. The energy question is completely alien for them. One big book, *Integral Ecology*, which was published in spring 2009, has, in its index, no entry for „energy“, „fossil fuels“ or „peak oil“ at all. (Esbjoern-Hargens-Zimmerman 2009). Obviously, these are not important topics for „integral ecology“.

Probably, integral theorists think that the main cause of our mega-crisis is «greed» or «lack of enlightenment», but that can't explain why a system is in good condition in one time, and then in big trouble in the other (greed is always here, and banks and stock markets are always making profit, but, in good times, it is called «success»). Some integral theorists can mention the vulnerability and fragility of market economies, but without a mentioning of peak oil or any other energy constraints (McIntosh 2007).[\[12\]](#) Integral theorists would be probably enthusiasts for «alternatives», especially renewable ones, but, as we saw, it's not a realistic option. They usually think that technology is neutral and that its correct use depends on human moral and spiritual abilities or «level of consciousness».[\[13\]](#)

In the near future, there is a room for integral theorists but only if they abandon their progressivistic and idealistic, increasingly outdated visions about „enlightened“ industrial civilization, global governance, „progressive evolution“ etc. In the post-peak oil world – or in the second phase of fossil fuel's era – true enlightenment can mean only the acknowledgment of the „perfect storm“ (the end of the fossil fuel era + a climate change, lack of water and other relatively minor problems) in which industrial civilization will disappear.

True enlightenment can mean to help people to prepare for a demographic and social collapse in the next 20-40 years and contribute to a less painful social transition to a post-industrial society. This is not a small and insignificant thing. Integral theorists – and other independent and critical thinkers – can criticize the official ideology of industrial society which identifies consumerism and wellbeing, technological inovations and progress, medicine and health, standard of living and quality of living etc. In this way, the collapse of industrial society will not seem to people as great a tragedy and catastrophe, just a disappearance of one unnatural order and opportunity for building not an utopia, but a more natural society, more in touch with evolved human nature and its fundamental needs.

NOTES

[1] There is a huge literature about ecological (environmental) history. See: Hughes 1975, 2001, 2006, Redman 1999, McNeill 2000, Chew 2001, 2006, Diamond 2008, Ponting 2007. About ecological history of human societies I wrote one extensive article in Croatian (www.isp.hr/~tmarkus/). Wilber and other integral theorists knew nothing about this important problematic. Wilber was often suggesting that the so called ecological crisis is something modern, a consequence of „industrial ontology“ or the dominance of „flatland“. But what about the dismal ecological state (and countless other anthropogenic problems) of agrarian civilizations where there was no „flatland“ or modern science? In these societies the dominant approach in the „high culture“ was the perennial tradition, something completely different from modern science, but the fundamental anthropogenic problems were more-less the same. This is not surprising if we accept the theory of bio-social discontinuity. Ecological and other anthropogenic problems are the main feature of all complex societies, because civilization is an unnatural order, without roots in our deep evolutionary past.

[2] In the world as a whole, the main energy source in 19th century was still wood and in the 20th century coal.

[3] In essence, the so called green revolution – the basis of the demographic explosion in the last 100 years – was nothing else than the invention of a way to turn petroleum and gas into food. Traditional organic agriculture can feed only 1-1,5 billions of people at the most and probably, because of climate change, lack of water, soil erosion, desertification and other problems, much less in the near future.

[4] *Peak oil* means the maximum quantity of extracted oil ever or approximately 50 % of all existing oil in some region, country or in whole world. For example, *peak oil* for the North Sea was in 1999 and for Russia (2007) and Saudi Arabia (2005) – two of the biggest exporting countries in the world – it was in the last several years. All concrete data can be found in relevant Internet-sites, especially wikipedia and energybulletin and in some books with good overview (Heinberg 2005, Catton 2009, Rubin 2009). The first half of extracted oil was the best quality and easily to extract. Peak oil means the end of the first (ascending) phase of the fossil fuel's era and now we are at the beginning of the second (descending) phase. Peak oil is just the most important event/process of our time as end of fossil fuel's era is the most important process. Here I can't talk about many other big problems of contemporary civilization, like climate change (a much slower effect with many uncertainties), lack of fresh water, soil erosion, the sixth great extinction, new diseases etc. (the much publicized «terrorism» is just a little disturbance, not much important). Richard Heinberg (2007, 2009b), says that peak oil is «the leading edge of Peak Everything».

[5] About the energy history of human societies and modern utilization of fossil fuels see: Price 1995, Heinberg 2004, 2005, Crosby 2006, Kunstler 2006, Homer-Dixon 2006, Dekaniæ 2007, Greer 2008, Engdahl 2008.

[6] Tainter 1988, Caldararo 2004, Diamond 2008, McAnany-Yoffee 2009. About possible scenarios and the future of industrial societies see: Heinberg 2004, Kunstler 2006, Greer 2008, Smil 2008, Holmgren 2009, Catton 2009, Rubin 2009. A big advantage of peak oil theory is its testability and refutability, because even future scenarios belong to very near future.

[7] Many authors wrote about problems with «alternatives». See: Heinberg 2005, Kunstler 2006, Burr 2008, Greer 2008, Catton 2009, and many Internet-articles.

[8] The critique of consumerism, widespread among thinkers of very different opinions, always had several internal problems, like: what about the many jobs which depend on mass consumption?, or: what will people get instead of a high standard of living? But now, these are obsolete problems, because the consumer society – another product of the era of abundant cheap energy - can't survive peak oil for a long time. Peak oil – or, seen wider, the end of the fossil fuel era – will cause a disappearance of mass-consumerism, not «spiritual enlightenment» or «perennial wisdom».

[9] Wilber 2000, 2006, Hollick 2006, Laszlo 2006, 2008, Reynolds 2006, McIntosh 2007. In fact, the «new civilization» is not so new, it's just a more «enlightened» version of contemporary industrial society or neoliberal global civilization without it's big social and ecological problems. Some kind of New Age utopia, in other words.

[10] Steve McIntosh says – and that is the opinion of the majority of integral theorists – that „integral consciousness“ or a „higher level of civilization“ depend on healthy market economies with security, mobility and other convenience for well-to-do members of the middle-class (McIntosh 2007). But today, just 1-2 years later, market economies are in deep trouble, with no end of trouble in sight. Integral theorists can only hope that this is a temporary crisis, but it isn't a very realistic position. We will know the truth very soon.

[11] A leading integral thinker says, for example, that the main problem is not resource depletion or overpopulation, but a «lack of mutual understanding in the noosphere» (Wilber 2000:285). In other words, all depends on human decisions, there is no objective ecological (geological, climate etc.) constraints on human actions. This is an extreme form of humanistic voluntarism and a typical idealization of contemporary liberal democracy. Integral theorists think that relative prosperity and tranquillity in these societies are the product of «interior moral/spiritual/intellectual development». But this is much more the product of short-term favourable material conditions. When there is abundant and cheap energy, ethnically, racially and religiously diverse populations can live harmoniously with one another and governments can be relatively tolerant. But when energy and goods become scarce and expensive ethnic tensions surface, criminality and violence increase and governments become authoritarian. We saw all these tendencies in the last few years in the USA, Great Britain and other «advanced» countries (especially the increasing restrictions of civil liberties) and we will see it much more in the coming years. No «interior development» of «enlightened» citizenry can be of much help when industrial societies begin to lose crucial preconditions for their normal functioning. Ironically, especially much violence can be expected in the USA – because of very

heterogenous populations and rapidly decreasing high standard of living - the home of the most integral thinkers.

[12] Many thinkers – Mumford, P. Ehrlich, Hardin, Heilbroner, Taylor, Ophuls, Bookchin, Shepard, S. Diamond etc. – were talking about instability and unsustainability of industrial societies in the 1960s and 1970s and William Catton was the first explaining, in book-form, the Achilles' heel of industrial society, namely the unsustainable dependence on fossil fuels (Catton 1980). So, it's no great achievement to talk today about the „fragility“ and „vulnerability“ of market economies *in abstracto*. Today, we can see concrete processes of desintegration of the industrial civilization and that must be explained.

[13] Many thinkers (especially Heidegger and J. Ellul) were criticizing the thesis of neutrality of technology, but not for good reasons (they knew nothing about the theory of bio-social discontinuity). If technology is neutral, so is society and then – every society is as good as any other: it can't be anthropogenic problems at all. But for the theory of bio-social discontinuity only one society is natural and only very simple technology, typical for a hunter-gatherer society, is optimal for the human animal. Complex industrial technology is an integral part of industrial society and inevitably increases anthropogenic problems. It doesn't matter very much how people are «enlightened» or «moral», they can't be successfully adapted to «advanced» technology because their psychology and physiology belong to quite different social and ecological conditions.

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PITFALLS OF WILBERIAN ECOLOGY

A Critical Review of "Integral Ecology"

Tomislav Markus

I. Content and methodology of “Integral Ecology”

Integral Ecology is an emerging field that applies Ken Wilber's Integral Theory to environmental studies and research. The field has been pioneered, in the last several years, by integral theorist Sean Esbjörn-Hargens and environmental philosopher Michael Zimmerman[1]. The authors maintain that *Integral Ecology* (IE) tries to integrate over 80 schools of ecology and 70 schools of environmental thought. It tries to integrate these approaches by recognizing that environmental things are the result of an observer using a specific method of observation to observe relevant aspect of nature. This post-metaphysical formula, in the authors opinion, is summarized as Who (the observer) x How (method of observation) x What (that which is observed).

In the authors's approach IE uses a framework of eight ecological worldviews (e.g.,eco-manager, eco-holist, eco-radical, eco-sage), eight ecological modes of research (e.g., phenomenology, ethno- methodology, empiricism, systems theory), and four terrains (i.e., experience, behaviors, cultures, and systems). The authors start from Wilber's AQAL (all quadrants, all levels) model, with its four fundamental terrains or dimensions: I (subjective, intentionality, individual experience), IT (objective, behaviour), WE (intersubjective, culture/ideas/worldviews) and ITS (interobjective, social and ecological systems). The authors argue that an integral approach means that all four spheres have to be taken into account and not only the two objective spheres, as modern science and many critics of modernity (from romantics to contemporary radical ecologists) did. But Integral Ecology puts a heavy emphasis on the subjective and intersubjective dimensions, even on some kind of nature mysticism. In the authors's approach, Integral Ecology is a consequence of the very often demand that human interior dimensions – personal experience and culture – receive good acknowledgement. For the authors,

“Integral Ecology is the study of subjective and objective aspects of organisms in relationship to their intersubjective and interobjective environments at all levels of depth and complexity” (IE, 168-9, 173, 478).

The authors write that Integral Ecology is methods study of the subjective and objective parts of organisms who are in relationship to their intersubjective and interobjective parts of their environments. That means, for the authors, that Integral Ecology doesn't look for a new definition of ecology, but tries to find an integral interpretation of the common definition of ecology. In such ecology organisms and their environments have “interiority”. The authors argue that Integral Ecology also analyze “developmental stages” in nature and human beings. These include analyzing how people with different

worldviews understand nature. For the authors, Integral Ecology tries to connect good insights from many and different perspectives into a theoretical framework which can have a practical meaning as well. For the authors, basic framework of Integral Ecology is based on Integral Theory, and on Ken Wilber's AQAL (all quadrant, all level) model. Integral Ecology is the result of many years of research exploring the many different ecological perspectives and their relevant methodologies." The authors argue that many different worldviews must be represented, from natural and social sciences, philosophy, religion, cultural norms and values, etc. This is, the authors think, crucial if we want to develop good solutions to environmental problems. This is not, in authors's opinion, relativism, because some perspectives are more meaningful and better than others.

The authors argue that "Integral Ecology avoids 'gross reductionism' (the reduction of all reality to objective phenomena) and 'subtle reductionism' (the reduction of all interiors to interobjective phenomena)" and organizes all perspective into one coherent whole. For authors, "subjective and intersubjective dimensions must be interpreted on their own terms" and not reduced to (inter)objective phenomena (IE 6, 479). In book dozens of real-life applications and examples of this framework currently in use are examined, including three in-depth case studies by three different authors: work with marine fisheries in Hawai'i (by Brian Tissot), strategies of eco-activists to protect Canada's Great Bear Rainforest (by Darcy Riddell), and a study of community development in El Salvador (by Gail Hochachka).

Following Ken Wilber, the authors differentiate between „ascent tradition“ (mainly axial religions), which devalued the natural and social world in favor of some transcendental reality, and the „descent tradition“ of the modern age, which admits only the material world as reality. Descenders deny the possibility of Ascent, except as eternal horizontal technological and economic progress and affirm only two objective spheres (IT and ITS). That was the cause of the dignity (differentiation of art, morals and science and material progress) and disaster (exploitation and destruction of nature and indigenous nations) of modernity. Domination of descent tradition meant also rejecting spirituality and the interior perspective, and, hence, the creation of sense of meaningless and absurdity.

The authors criticize radical ecologists (environmentalists), especially deep ecologists, for „retro-romanticism“, „regressivism“, the idealization of „tribal/indigenous societies“, the negation of the „dignity of modernity“, possible totalitarian tendencies (eco-fascism or primacy of the whole over the individual organism), etc. In general, this is a repetition of Michael Zimmerman's – former heideggerian deep ecologist - critique from the 1990s and early 2000s. Even reformistic environmentalists are caught in the industrial grid of „flatland“ because they admit matter and energy as the only realities. The authors think that, instead of yearning for „back to nature“ or „unity with nature“ (this is social and personal regression), humans have to move forward to Spirit or higher levels of moral and spiritual development.

For the authors, Integral Ecology is, in some aspect, close to postmodernism because it emphasizes the importance of different perspectives, but it rejects postmodernistic extreme relativism, antiprogressivism and antimodernism. The authors maintain that the

perspectivism of Integral Ecology means that all life has some kind of perspective or capability of noticing and prehending. The authors think that this interiority is developed the most in humans thanks to abstract reasoning, self-consciousness and language and in this sense biological evolution is progressive. For the authors, humans are not just organic, but also noospheric beings.

II. Problems with wilberian ecology: critical remarks about “Integral Ecology”

In a previous article, "Two Roads Diverging" (Markus 2009b) I pointed out that „integral theory“ should be more accurately called "wilberian theory". Such is the case with „integral ecology“, which proper name should be "wilberian ecology" or even "orthodox wilberianism". The authors quote whole fragments from Wilber's works in detail, without any critical analysis. This method reminds one of orthodox marxists and their treatment of Marx/Engels theory. The limitations of wilberian theory are the limitations of this book as well.

Every human being and every scientist/philosopher has to have some particular perspective and this is not a bad thing. But the moral obligation of the scientist requires that this perspective has to be argued for as strongly as possible (ideally, presuppositions then stop to be prejudices and become testable hypothesis, then well-argued theories) and that opposing perspectives must be mentioned and their rejection explained. That means that the authors don't represent a true „integral“ approach – perhaps because this is impossible? – but begin with some particular position and some fundamental positions. These positions – taken over, of course, from Wilber – are:

1. idealism and subjectivism (the primacy of the „interior dimension“, worldviews, ideas and culture; not the negation of existence of the real world);
2. cosmic progressivism (all fundamental changes, from the Big Bang to modern civilization are part of an „evolutionary advance“) and
3. problem-solution („integral ecology“ as the „solution“ for ecological problems).

All three positions are taken for granted and they have the status of prejudices, not scientific hypotheses. This is inevitable, because the whole project of „integral ecology“ – in the authors' perspective, at least - starts as some kind of protest against scientific naturalistic and materialistic methodology. The idealistic approach presupposes a radical dualism between subjective and objective or interior and exterior, just as traditional dualism mind/body or soul/matter. Scientific naturalism, whatever its defects may be, is monistic and doesn't suffer from such problems.

What does the subjective analysis of ideas/worldviews/values mean? If „interior dimensions“ aren't conditioned by material (biological, ecological and historico-social) conditions of human life, by what are they conditioned? Do they originate from some „spiritual intuition“, or from some inner dimension inside the human mind? If they are the product of objective dimensions then they can be explained objectively. If interior dimensions can't be reduced to objective dimension, how are they created? This reduction

is possible and justifiable exactly because the interior dimension (self, experience, values, ideas etc.) is created through objective (darwinian evolution and historical-social changes) processes.

The authors's subjectivistic and idealistic approach leads into mysticism and irrationalism, ironically, in the name of „progress“ and the „dignity of modernity“. In the best case, this is some kind of thought-provoking, study-stimulating and very interesting speculative philosophy, but surely not some „integral theory“ which could „include“, much less „transcend“ science. To be sure, naturalistic and materialistic science has many constraints, but it is the best we have, because scientific objectivity is rooted in the cognitive structures of the brain, which is the product of eons of biological evolution (about that see: Markus 2009b). Speculative philosophy – which means a full return into traditional metaphysics – can't be the substitute for empirical science. Naturalistic science has, if nothing else, a rational and pretty much convincing explanation of the so called „interior dimensions“ of the human mind as a product of darwinian natural selection and long-term evolutionary processes. This is exactly the methodology of the darwinian ethologists, including Mark Bekoff who, ironically, wrote a very laudable foreword to this book. Belief in the autonomy of the „interior dimension“ leads either into irrational mysticism or rational metaphysics (inconsistent with a wilberian post-metaphysical approach).

The progressivistic approach is also a big defect of Integral Ecology. I earlier pointed out that anthropogenic problems, as the main characteristic of all civilizations, are the fundamental problem for every progressivistic interpretation of recent human history (Markus 2009a, 2009b). My general objections to Integral Theory (Markus 2009b) can be applied to Integral Ecology as well. The authors reject a regressive interpretation of recent human history but without any detailed and substantial analysis. Their short mention of Paul Shepard's theory is especially disappointing (IE 288-291). They even don't recognize a theory of bio-social discontinuity, a crucial point of Shepard's ecological theory and mention the catholic theologian Thomas Berry, quite a different thinker, alongside Shepard.

The authors think that, because all living beings alter their environment (which is, of course, true), every human work and artifact is „natural“ (IE 567). Not so. From a darwinian perspective, „natural“ is only what is evolutionary-tested or what is tested by natural selection in the eons of evolutionary time. For example, a beaver's dam is „natural“ not because it's part of nature (everything is so „natural“ and this is a pleonasm) but because it's an evolutionary-tested artifact which has its root in the beaver's genetic heritage; an ant-city is likewise natural, etc. But a human dam or human city is surely not natural in the sense that they are rooted in our evolutionary past or that they are part of our genetic heritage. This is the reason why a beaver's dam or ant-city is not problematic (ecologically or for the beaver's and ant's well-being, quite the opposite) in difference from a human dam or city. Industrial technology is unnatural not because it's technology – there is technology in hunter-gatherer society as well – but because it's part of industrial society, the most unnatural (that is, with the biggest adaptive gulf) social order in human

history ever. Acknowledgement of the theory of bio-social discontinuity – perhaps through a better familiarity with Shepard's theory – could be helpful here.

The authors mention several books of environmental history, but there is very little historical analysis in their book. They think, basically, that the modern worldview („flatland“, „industrial ontology“ or scientific materialism) is the main culprit of ecological problems. But what about many ecological and other anthropogenic problems, including a sense of meaninglessness, in agrarian civilizations? There were certainly not industrial ontology, „flatland“ and modern science – or industrialism and machine technology, for that matter – in these societies. This is the reason why a scientific (not: speculative, as wilberian approaches often are) historical perspective so important. About these problems I already wrote in "Two Roads Diverging" (Markus 2009b). The authors mainly ignore hunter-gatherer societies in which there were no descent/ascent tradition and no special privilege for human beings. They use imprecise and scientifically useless terms, such as „indigenous“ or „tribal“ societies, a frequent defect in wilberian literature as well (Markus 2009b).

So, their critique of these societies is of a very poor quality and with very selective use of the scholarly literature, that is, they mention only those authors with a similar position (e.g. Edgerton 1992, Keely 1996, LeBlanc 2003), but not the others (e.g. Fry 2006, 2007, Ferguson 2006) or they put different authors in the same basket, even those who argue for quite opposite interpretations from theirs (e.g. C. Ponting and D. Hughes who think that the real root of the ecological crisis is neolithic domestication, but the authors mention them as an affirmation of their own position). They think that archeology, environmental history and other historical sciences have done much to dismantle a „naive understanding“ of „indigenous“ societies (IE 548). But, as I explained (Markus 2009b), no such consensus exists and many scientists argue for a position quite opposite of the authors'.

For the authors, personal and social regression is the worst sin of the radical ecologists, especially those who call for a „back to Pleistocene“ (IE 32-33). But, as Paul Shepard has pointed out in detail, this can be explained in a completely different way, as a protest against an unnatural social order (civilization in general, and industrial mega-cities in particular) and an affirmation of the natural ecological context of human beings: a clean, organic and wild environment (Shepard 1996, 1998a, 1998b, 1998c, 1999). Pleading for a clean environment (clean water, air, food etc.) is surely not „regression“! But a clean environment is an ancient ecological context in which our ancestors were living for millions of years and which civilized (especially urban) humans desperately try to recover. If humans have genetic needs for a clean environment they also have needs for an organic and wild environment, because it's our ecological context too. And there's the rub, for when does such effort stop to be „correct“ and begin to be „regressive“? Or perhaps such efforts are symptoms of a „higher stage of consciousness“ from the beginning? If so, then „primitive“ people don't have a need for a clean, organic and wild environment – or, perhaps, they have, but they aren't „rationally conscious“ of it, or... This is a big confusion for the civilized mind: fundamental needs of our nature – symptoms of our genetic adaptation to the hunter-gatherer life - can't be completely ignored, but

progressivistic ideology and an apology of (modern) civilization interprets them as „regression“, that is, as „atavistic“ remnants of our distant past which has to be „overcome“. All human behaviour is, in some sense, „regressive“ and „atavistic“ because it's all about the satisfaction of fundamental (genetic) needs, or, if that isn't possible (because humans live in an unnatural social environment), about finding substitutes. These substitutes can be the accumulation of political and economic power over other people and nature, consumerism or the construction of some collective illusion, like transcendental (celestial) beings, „historical progress“ or something else. I wrote about that in detail in a previous article "Limits of Spiritual Enlightenment" (Markus 2009a).

For the authors, ecological values depend on „higher moral development“ or „ecological consciousness“. But hunter-gatherers have no „ecological consciousness (in the contemporary sense, at least) and they are presumably in the lowest level of (spiritual and material) „development“... but nevertheless they have the best ecological balance – from a clean and wild environment to long-term sustainability – of all human societies. And quite the opposite: industrial society – with the „highest level of development“ and the most „ecological consciousness – have the worst ecological balance. How is that possible? For the authors, that must be a great mystery but certainly not for those who accept the theory of bio-social discontinuity. The authors admit this (IE 649-654) but argue that this is so because of material factors (small population, simple technology etc.). Well, certainly yes, but this is a materialistic perspective, not „integral“ (read: wilberian) thinking. After all, what is crucial for the avoidance of ecological and other anthropogenic problems: „higher consciousness“ and lofty „moral development“ or suitable material factors, that is, a natural social and ecological context and the enforcing of evolutionary-tested behavior? Integral theory says the first, the theory of bio-social discontinuity says the second.

Prof. Esbjörn-Hargens and prof. Zimmerman think that a darwinian approach must be avoided in the case of human behavior if we can keep some moral constraints on human demographic expansion (IE 13). But this interpretation is an example of pop-darwinism, namely, a dark vision of nature as a bloody battle-field or "nature red-in-tooth-and-claw" because of the maximization of reproductive success. About this mistake, which originates from Darwin's misapplication of the malthusian hypothesis, I wrote in a previous article, "Two Roads Diverging" (Markus 2009b) New darwinian theories – in which the theory of bio-social discontinuity is present very frequently - authors mention only twice and incidentally. For example, sociobiology is mentioned as an example that ecological problems have their roots in human nature (IE 294), although many sociobiologists, including E. Wilson, point to the adaptive gulf, like Shepard. There are some other strange statements about neodarwinism, e.g. that biosemiotics is a „powerful critique of neodarwinism" (IE 570-1), surely completely new for neodarwinians (including myself).

Ignorance of (neo)darwinian theories is consistent also with the authors' tendency that modern science reduces everything to physics (the fallacy of physicalism). Physics can tell us nothing about «mind» or the «interior dimension», but darwinism and evolutionary biology are something else. So called human „interiority“ (or „spirituality“) is nothing

but our genetic heritage and evolutionary past or what is popularly called „human nature“, evolved genetic traits, including our fundamental needs. Living beings, in difference from anorganic matter and energy, have an evolutionary heritage and genetic adaptation to some local habitat. This is quite different stuff than (mechanistic or quantum) physicalism.

It's a great irony that this so called "evolutionary" approach systematically avoids evolutionary biology and contemporary neo-darwinian theories. The antinaturalistic and idealistic approach of Integral Ecology creates many difficulties, for example: from where do ecological values come from? Integral Ecology maintains that ecological values come from interior – moral and spiritual – development. But what about other beings? That means, for example, that the need for a clean and healthy environment for humans is rooted in „interior development“ and for other beings in their evolutionary past. This is a strange and very unconvincing position. In fact, a natural and healthy environment for humans is exactly the same for humans as for any other species: an environment of evolutionary adaptation. The idealistic and subjectivistic approach is especially seen in the constructivistic position. For the authors, there is no such thing as biologically grounded human nature, only a self-constructed „self“ and an „interior experience“. This is an extreme version of subjectivistic and idealistic constructivism. Authors argue for pop-evolutionism, an un-scientific interpretation of evolution as a creative and „progressive“ process, which covers almost anything, from the Big Bang to social macrodynamics. I already criticized that perspective in "Two Roads Diverging" (Markus 2009b).

Methodological pluralism, with its 200+ perspectives, seems a great strength of Integral Ecology. But at a closer look this is not so because the authors take into account only specific aspects of other perspectives which can be accommodated into their perspective. Some perspectives – like the theory of bio-social discontinuity, which the authors don't even mention – are not compatible with Integral Ecology in even a very limited sense. Integral Ecology is a very specific perspective with several fundamental aspects:

1. subjectivism, idealism and humanistic voluntarism,
2. progressivism, especially with regard to recent human history,
3. problem-solution (Integral Ecology as the „solution“ of ecological and other problems) and
4. the probability of a sustainable industrial civilization.

One has to accept all of these four (and possibly some others) assumptions if Integral Ecology is to have some sense.

Of course, the authors are well aware that contemporary industrial societies are perhaps not sustainable, but Integral Ecology has sense only if they are sustainable (for worldcentric and planetcentric values are possible only in the global industrial civilization). The authors completely ignore fundamental events (such as peak oil) and fundamental processes (the end of the fossil fuel era) of our time. Only once they mention peak oil (IE 331), but not in the context of a serious theoretical analysis of contemporary

societies, but in the fictive case of some „Mary Joe“ who believes that technology and a free market can be the solution for various problems, including the „peak oil crisis“. This is an incredible trivialization of the probably most important problem of contemporary industrial civilization. There is no mention, not even one book or article – and relevant literature is huge - about peak oil in their literature-list (except the interesting but outdated W. Catton's Overshoot) and one web-page (dieoff.org) in one footnote (IE 545).

Integral Ecology is founded on an unjustifiable optimism – a consequence of the subjectivistic and idealistic approach with its fundamental importance of the „interior dimensions“ as „key to our future as species“ (IE 478), very much a Californian spin - and gives hopes which can't be materialized. Contrary to the authors' statements, its basic position is not particularly new: the „solution“ is moral/spiritual „development“ and intellectual „enlightenment“ as a means for the „good“ use of technological and economic „progress“, or „progress“ in „interior dimensions“ as a good basis for „progress“ in „exterior dimensions“ (ecological modernization, sustainable development etc.). We have to be spiritually „enlightened“ to use modern technology „wisely“.

Not surprisingly, the authors mention „breakthroughs in alternative energy“ (IE 655) and they are certainly supporters of „alternatives“ and „renewables“. But it won't work and I have explained why in "Twilight in the Integral World" (Markus 2009c). For example, the authors argue that the percentage of poor people continues to shrink to the lowest recorded level (IE 153) – and that was written in the summer of 2008 (the time when their manuscript was finished), when the mega-crisis has exploded and the world financial system was at the brink of collapse. If our problems have thousands-year old roots (as the theory of bio-social discontinuity argues) and if industrial civilizations is not sustainable, there can't be a „solution“, neither technocratic nor idealistic, certainly not for the contemporary mega-crisis and the perfect storm (peak oil + climate change + a host of other „minor“ problems).

Ecological and other miseries are not „problems“ at all. They are conditions created by humans, which humans can't „solve“. In the short-term not because these „problems are created through several milleniums and in the long-term (a „solution“, say, 500 years from now?) not because this is not a human perspective at all. This is not fatalism (there are many things which can be done, individually and collectively), but a realistic assessment of the human predicament. About practical problems with wilberian thinking I already wrote in "Twilight in the Integral World" (Markus 2009c). There are other difficulties and problems in the book (e.g. the question of eco-fascism, the concept of a „post-natural world“ [another example of idealistic constructivism], bio-semiotics, the complete ignoring of the biggest tragedy of our time: the demographic explosion, worldcentrism as „fundamental feature of modernity“, a gross understatement of modern nationalism, a vague concept of the „pneumasphere“ etc.), but here I can't write about them in detail.

This book has some good sides, many thought-provoking statements, plenty of information, different perspectives, a refreshing interdisciplinary approach, interesting

case-studies etc. It certainly deserves to be read carefully and more than once, because prof. Esbjörn-Hargens and prof. Zimmerman are serious ecological thinkers in their own right. A certain superficiality was probably inevitable because of the scope of the subject matter. But, in general, there is a significant gulf between the authors' ambition and their real achievement. It's laudable how much the authors have distanced themselves from the anthropocentrism and illusion of human exemptionalism, which are the main characteristics of the perennial tradition. Something more would probably mean the abandonment of a wilberian perspective altogether.

In the last few years Wilber has stopped responding (in fact, he didn't respond to some well-argued critiques long time ago, e.g. David Lane's article „Wilber and the Misunderstanding of Evolution“ [1996]) to his critics, because, he thinks, they constantly misinterpret his position (one more similarity between orthodox marxism and orthodox wilberianism: critics always distort the Master's view). Only internal critique(?) in the Integral Institute seems to be allowed and every external critique is seen as „misinterpretation“. I hope that the authors will take a more constructive, non-dogmatic approach, because they explicitly call on other thinkers to analyze the limitations and problems with integral ecology and integral theory in general (IE 552). This review is one such attempt. The length of this review is a symptom of my conviction that their book, despite many problems and omissions, is a well-written, serious and inspiring work. I had a sense that I am better informed and educated after reading their book. And in other cases authors compelled me to think harder about my main convictions and statements. I am grateful to them for that.

NOTES

[1] Sean Esbjörn-Hargens – Michael Zimmerman, *Integral Ecology: Uniting Multiple Perspectives on the Natural World*, Boston: Integral Books. Quotation marks denote sentences or part of sentences literary quoted from book “Integral Ecology”. Reviewer mention his other works, published previously in the “integral world” because of shortening of review (f. e. instead of explanation what certain concepts – like theory of bio-social discontinuity or oil peak mean – reviewer mention his relevant articles about these topics)

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