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## ECOLOGY AS A PHILOSOPHICAL PROBLEM: ON THE CONCEPT OF THE ECOLOGY OF WHOLENESS

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### ABSTRACT

An attempt is made to analyse ecology as a philosophical problem, as a holistic phenomenon, that is, to analyse ecology in the broadest possible context, since philosophy is the only form of social consciousness which is directed at all-embracing cognition and understanding of the world. And the process of understanding of any essence, including ecology, is directed, first of all, at achieving the conceptual unity and congruity of facts and phenomena belonging to different and even polar aspects of the Universe. The philosophical foundation of the concept of the ecology of wholeness is laid.

*On this shrunken globe men can no longer live as strangers.  
Adlai Stevenson*

*The art of progress is to preserve order amid change, and to  
preserve change amid order.*

### 1. INTRODUCTION. WHOLENESS AS COMMON CONCEPTUAL BASIS OF ECOLOGY AND OTHER SCIENCES.

Ecology taken in its "ultimate theoretical actualisation" can be named the science about wholeness, for its main subject is the process of interaction of organisms and organic systems with their environment. But the process of this interaction appears itself always as something whole. The phenomenon of wholeness can be found in many fields of scientific research. As quantum physics shows, the world on its fundamental quantum level of the matter is revealed to be a holistic complex, the synthesis of single and plural, where such entities, as actual and potential, cause and effect, simple and complex, part and whole are not differentiated. The characteristics of the Universe on its fundamental quantum level are like the characteristics of thinking brain; and quantum reality in psychics plays a key role. The unity of consciousness and Being is proved by the studies of neurodynamics of man's cortex, where the identity of the principle of wholeness of Universe's existence as a holistic entity with the same principle of cortex's functioning is revealed [1]. J. Piaget writes, that subject and object (person and world, external and internal, consciousness and Being) are, in principle, inseparable in the process of interaction. Subject-object unity is found as well in the sphere of dialectical logic, being the language of science, where it is stated that between A (affirmation) and non-A (negation) something third is possible, which integrates A and non-A; the Truth itself appears to be "the unity of opposites", and logic as a science tends to transfer from the classical two-digit into a three-digit (ambiguous, paradoxical), which lays the conceptual foundation for postulating "the three-digit culture and philosophy", as well as for the law of "excluded fourth", for which H. Reichenbach substitutes a logical law of excluded middle. Subject-object unity is reflected in W. Heisenberg's relation of uncertainties, as well as in the complimentary principle of N. Bohr, conceptualising inseparable unity of two opposite types of matter – substance and field which are integrated into something "third", into a certain "higher" reality; the latter, as D. Bohm puts it, is neither matter, nor consciousness in pure form. The "third" corresponds to the category of "wholeness" occupying a prominent place in the sphere of conceptual constructions, explaining the essence of life and the mechanisms of its

development. Subject-object unity is fixed here as the unity of such categories, as onto- and phylogenesis, stimulus and reaction (when any receptor is simultaneously an effector), subjective and objective, when we have the principle unity of external influence of environment and the internal factor of heredity in the process of mouldering the living forms..

Our papers are devoted to the two interrelated aspects – to ecology as wholeness and to the phenomenon of wholeness as the most actual reality of today's science. Our task is to show, that *wholeness as major axiom of modern natural sciences and philosophy* must be in the centre of attention of any researcher, that it is only on the paths of wholeness the problems of ecology and science taken as a whole can be solved in an adequate way.

## **2. WHOLENESS AS THE MAIN SCIENTIFIC REVELATION OF XX CENTURY. SCIENTIFIC IMPLICATIONS OF WHOLENESS.**

The main philosophical and world view revelations of our century are found in the sphere of human consciousness longing for holistic, total understanding of the world. We live in the time of global religious, world outlook and scientific synthesis, to which, according to the words of A. F. Losev, our epoch "is aspiring more, than any other" [2]. We become the witnesses to the process of intensive integration of scientific disciplines; the frontier areas of human knowledge are being investigated. As a result, the world outlook approach of natural sciences to the cognition of nature is being changed. The thought about wholeness of behaviour of the matter both in the small, on the level of elementary particles, and in the great, on the level of macrocosm, ripens. The need in overcoming the contradictions between intensive and extensive directions of scientific studies, between synthetical and analytical knowledge arises. In the system of philosophical sciences, in natural sciences the development of integral scientific investigations, covering broad spectrum of phenomena of reality, are under way [3]. Wholeness of Being, the unity of the world lead us to the thought about universal laws and principles of reality, which has always been in the focus of attention of great scientists

We may say, that one of the fundamental discoveries of science as a form of social consciousness is wholeness, synergy, revealing the phenomenon of "noncausal", holistic and synchronic relationships, when integral entities turn out to have characteristics, which in principle cannot be deduced from the characteristics of their component parts. So, wholeness is, first of all, a paradoxical essence, since it appears there, where we observe the process of achieving the state of unity of opposites, the synthesis of functionally and substantially different things. The paradoxical essence of wholeness is reflected in the phenomena of noncausal synchronic relationships, analysed in the works of C. Jung, W. Reich, F. Capra, F. Dyson, V. Paulli, P. Davis, N. A. Kozyrev and others. This phenomenon finds its embodiment in the reality of implicative (noncausal) co-ordination of quantum processes. Wholeness actualises there, where difference as a phase of development of dialectical contradiction transforms into identity, where varied discrete phenomena create universum. In the latter all is connected with all and there is nothing absolutely insulated and independent. That is to say, wholeness is a "soul" of the Universe, which can be interpreted as categories of spirituality and Higher Reality on the pole of religious and as "an utterly new subject of science" – on the pole of scientific cognition.

In the aesthetics wholeness is beauty (as a principle of synergetic co-ordination of the components of the wholeness), in axiology it is goodness as a harmony of aspirations of a separate person and the whole society, micro- and macrocosms. In cosmology it is indefinite in principle "primordial matter" (singular state of matter, physical vacuum, etc.), conceptually constituting the initial stage of development of the Universe. In mathematics it is zero – the most important number, the border between positive and negative values. In politology it is the central political power, uniting the interests of the right and the left. In sociology wholeness is a certain inconceivable "internal structure of historic reality". This is the "weak ecological bonds", according to V. P. Kaznacheev, which integrate all organisms of our planet into a single monolith of life, forming "living matter" of V. I. Vernadsky [3]. This is also a biological field of A. G. Gurvich, Aristotle's entelechy, creod (the notion, used in theories of morphogenesis and organogenesis as a definition of the factor of wholeness, directing the process of individual development), "forming causality" of R. Sheldrake [4], the theory of holographic Universe of D. Bohm and K. Pribram [1]. This is also a noosphere of V. I. Vernadsky, "the point of assembling" of C. Castaneda, "the mechanism of assembling" of N. N. Moiseev, "the peak experience" of A. Maslow, which integrates a person into a single oneness; the will of A. Schopenhauer; this is the existentia, being non-objectivated entity. This is also the "neutral element" of B. Russell (in its framework the verge between material and ideal is liquidated, "initial X" of H. Günter, "the point of Omega" of Teilhard de Chardin, the universal psycho-information field of D. V. Kandyba, "semantic space" of V. V. Nalimov, "passionarity" of L. M. Gumilov, "the nusus of life" of A. Bergson, the collective unconsciousness of C. Jung, the quintessence (the fifth integrating element of the ancient, as well as the fifth, so far hypothetical, synthesising type of the fundamental physical forces), "cosmic sympathy" of ancient Greek philosophers, panacea of Paracelsius, alchemical philosophical stone, "the Supersystem" of N. O. Lossky, it is the principle of holistic process of cognition according to W. Dilthey, who maintains that a man plunges in the

cognition of the world with all his essence, using all powers of his organism. This is also the "psychic centre" as a focus of unity of different ways of existence of a thinking being, which is postulated by Aurobindo. This is the name (the word) of A. F. Losev, affirming the totality of the Being, constituting the "arena" of the integration of subject and object, the cogniser and the cognisable, the perceiver and the perceived. This is also the ideal, which "can and must be explained on natural science plane on the basis of interrelation of the main material factors... as a particular functional characteristic of the unity of these factors" [5]. In psychology, psychiatry wholeness is expressed in such categories, as Gestalt, synesthesia, synergy, actualising here not only as a subject of the science about self-organisation of the material forms and their self-motion. Transcendental psychology of St. Grof observes a phenomenon of personal transcendence, when spacio-temporal frames of the Universe turn out to be ontologically transparent for separate persons. On the level of higher psychic functions, that is, on the level of the hemispheres of man's cerebrum, we can also observe the realisation of the principle of holomity, since both hemispheres reflect and master the world in the opposite ways: right hemisphere reflects continuous-field aspect of the world, forming an ambiguous polysemantic, artistic context of world view, building sacral-religious, metaphoric reality. Left hemisphere, on the contrary, reflects discrete-substance, plural aspect of the Universe, forming strictly one-semantic, unambiguous, abstract, discursive-theoretical world understanding, constructing rational-technocratic reality. Functional unity of the hemispheric information processing strategies, which is found, as EEG studies indicate, in meditation state, enables to actualise "the moment of truth", illumination, authentic, intuitive and meditative perception of the Being, being here both single, and plural, both complex, and simple... when actual, on the one hand, and potential, on the other, are not differentiated (which, by the way, is observed on the fundamental quantum level of the matter).

Thus, wholeness (self-realisation, according to A. Maslow) is a phenomenon, in the sphere of which all multiple dichotomies of the Being are integrated in a paradoxical way; these dichotomies correlate with psychosomatic nature of hemispheres of brain, such as sublime and profane, immanent and transcendental, faith and knowledge, empathy and reflection, confidence and scepticism, I and non-I, extraversion and introversion, oneness and multiplicity, volitional and non-volitional sphere of psychic activity, first and second signalling systems, masculine and feminine, normative and descriptive, moral and factual, Nirvana and Sansara... Wholeness reveals a personality, that harmoniously combines polar state of the Being, being, as P. Weinzwieg writes, a creature of "demiurgic" dimension, since it unites opposites and reaches a psychosomatic balance, being characterised by enormous tension, and hence – by stupendous might [6].

In all, we may say that unity of physical, spiritual, historical and culturological aspects of human existence, revealed nowadays, is not a revelation for the sciences about man and society. The French enlighteners have put forward a postulate about historical universality, have developed a teaching of history as an expression of universal nature of the man. The anthropic cosmological principle, which is maintained here, is characteristic of ancient teachings of Orient and West (where the unity of macro- and microcosms is shown), and is confirmed in one way or another by modern cosmology [7]. To this principle many thinkers adhered, beginning from Plato. They are O. Conte, W. Humboldt, I. Herder, M. O. Lossky, C. Jung and others. C. Levi-Strauss has it that the structure of human mind can be compared with the structure of physical reality. Teilhard de Chardin proves the identity of the development of separate civilisations, a person and the laws of biological evolution.

### **3. INFORMATIONAL AND COGNITIVE ASPECTS OF WHOLENESS**

Each 10-15 years the amount of printed information on our planet doubles. The deepening of the process of specialisation of sciences has brought about the situation when the volume of publications in some sciences has become practically boundless. In the process of research the scientist often spends a lion's share of time for studying the newest literature on the speciality. V. Chalidze writes, that "informational boom earlier or later will make our civilisation give up the classical tradition to cite all the predecessors; cognition and the history of cognition will have to be separated" [8]. That is why complex studies, directed at the synthesis of scientific views within the framework of certain set of problems, cause particular interest. It is quite understandable why modern science as a form of social consciousness is tending to holistic, "understanding" reflection of reality, why scrupulous investigations of separate problems are being replaced by the attempts to bind conceptually into a single whole an enormous array of uncoordinated branches of knowledge, not only to describe, but explain and understand an ensemble of facts, accumulated by mankind. So, the aspiration of modern scientific world to the synthesis of knowledge as wholeness presupposes the development of complex studies. Moreover, the achieving of understanding a certain phenomenon requires its holistic envelopment, when the fathoming of a certain fact needs going out of the limits of concrete ontological and gnoceological context of its actualisation.

Any phenomenon of our world can be studied within the framework of concrete problems of this or that scientific discipline. However, the maximum full and adequate reflection of a certain fragment of reality presupposes its all embracing study. So, only a philosopher, who tends to interpret a certain problem in the fullness of its ontological,

gnocological and axiological constituents (that results directly from the specifics of philosophy as a form of social consciousness) has chances to approach the understanding of this fragment of reality. If understanding is a phenomenon of wholeness, since any understanding is directed, first of all, at reaching the conceptual unity and congruity of facts within the framework of certain thinking tradition, then philosophy as a form of social consciousness (studying the most general laws and regularities of the Being in all its manifestations and appearing as a system-forming factor of social consciousness as a holistic system) can be called "the final cognitive instance" of a person, tending to reach the fullest comprehension of certain phenomenon. *It should be noted, that if understanding of a certain object presupposes its total embracing, then the formulation of object's understanding as holistic entity requires an application of religious and mythological views besides scientific theories, since myth, as it is well known, operates with the simplest holistic metaphoric categories.*

So, the informational aspect of human civilisation reveals the tendency to unification of knowledge and understandable truths. Here we can speak about the idea of psychosynthesis within the framework of sciences about man; we can analyse the idea of synthesis of arts (so called "total reuniting of the arts", as well as the concept of synthesis of world religions, about what D. L. Andreev writes in the book *"The Rose of the World"*. We may mention an attempt to build "a system of systems" [9], as well as the desire to reach the unity of natural sciences conceptions concerning the physical foundation of our world, to integrate philosophical teachings (and in particular to connect materialism and idealism, which express just the same, the different are only the signs of judgements, to synthesise moral and factual, to unify humanities and natural sciences [9], to reduce to the same theoretical "denominator" scientific and religious world outlook, within the framework of which the methodological isomorphism of scientific and mythological paradigms of cognition of the world is revealed, about what T. Kuhn, St. Lem and other authors write.

#### **4. SOCIAL AND ECONOMIC ASPECT OF WHOLENESS**

Nowadays leading economists acknowledge that economy has to be integrated into global context of humanity's existence; the most urgent is the need to work out the economical concept, where economical parameters and essentials be linked with analogous categories of ecosystems [10]. Here we may go even further and say, that the creation of holistic economical and ecological system on Earth needs the creation of the *continuous space of life*, when people do not kill animals. To illustrate the economic, say nothing of spiritual, urgency of this hypothetical space of life, we acquaint you with M. Harris's investigations [11], which prove, that Hinhu tradition to venerate cows stems mostly from the reason of economy. He writes, that a substantial rise of beef would strain the entire ecosystem of India not because of cow love, but because of the laws of thermodynamics. M. Harris puts it, that "in any food chain the interposition of additional animal links results in a sharp decrease in the efficiency of food production. The caloric value of what an animal has eaten is always much greater than the caloric value of its body. This means that more calories are available per capita when plant food is eaten directly by a human population, than when it is used to feed domesticated animals. Because of the level of beef consumption in the United States, three-quarters of all our croplands are used for feeding cattle rather than people" with all economical consequences resulting from this fact. The continuous space of life embodies in the phenomenon of society's and individual's synergy [12]. As A. Maslow writes, those societies have high synergy, in which "the social institutions are set up so as to transcend the polarity between selfishness and unselfishness, between self-interest and altruism, in which the person who is simply being selfish necessarily reaps rewards for himself. The society with high synergy is one in which virtue pays... A higher order of persons can understand a higher order of knowledge; but also a higher order of environment tends to lift the level of the person, just as a lower order of environment tends to lower it" [12]. Wholeness as social synergy reveals itself in the process of so called "collective meditation", creating "the field of consciousness", which influences positively on its environment. Here we can talk about *spiritual ecology*.

#### **5. MEDICAL, PSYCHOLOGICAL AND WORLD VIEW ASPECTS OF WHOLENESS**

Let us consider *the medical, psychological and worldview aspects of wholeness*. Here we can talk about the unity of man's organism and the environment, about the unity of healthy and pathological states. In this respect we can mention I. V. Davydovsky's theory of adaptation process in pathology, which main idea is, that organic pathological processes are "normal" reaction of adaptation of human organism [3], when somatic and psychic pathology appears as adaptation reactions, as necessary condition for person's development. R. Laing maintains, that mental illnesses are the sane results of person's adaptation to the insane social environment. The idea of the illness as an adaptation reaction provides a dialectical approach towards the adequate comprehension of axiological proportion of good and evil, so, we may say, that the illness is a fractured life contradicting itself, such life, which destroys itself in the very process it supports itself. This conclusion is very close to the ideas put forward by humanistic psychology, that teaches that socially "positive" and "negative" person's aspects represent "equal resources" of his personality. We can derive at the conclusion about the unity of man's psychological status, world outlook and his diseases. As A. Maslow stresses, that "most psychiatrists and many psychologists and biologists now come simply to assume, that

practically all diseases, and perhaps even all diseases without exception, can be called psychosomatic or organic" [12]. Thus, we can say, that pathology stems from disintegration of person's psychological state. This state of psychic splitting is revealed on the level of the functions of higher nervous system, on the level of the hemispheres of human brain, being the main psychosomatic regulator of man's organism [6]. We may say, that the state of disintegration of right (subconscious) and left (consciousness) results in the disintegration of man's somatic, cognitive, and thus – world outlook aspects, which represent a holistic unity. Due to the state of disintegration, the subconscious, automatic functions of human organism are affected. Hence the behavioural abnormalities. For example, there is an evidence of relationships between crime and crash involvement; a country's homicide rate could be used to predict its traffic fatality rate; relationships are found between road fatalities and levels of death by murder, suicide, and other violent causes in data of 27 countries [13].

Since the psychology teaches, that the whole is perceived before its parts, then we may discuss wholeness in the respect of man's worldview. Fundamental ontological and gnoceological division of the Being reveals its trichotomy. The philosophical tradition considers a world as trichotomic entity: as subject (something internal, immanent), object (something external, transcendental) and the interface, border lying between them and mediating their relations. In Gestalt-psychology this trichotomic division assumes an air of the basic scheme: "I" – border – "non-I". The border as a sphere of subject-object interaction (which personifies any two interacting opposite principles) has paradoxical contents, since it can belong: 1) either to the object, 2) or to the subject, 3) to the first and the last simultaneously, 4) neither to the first, nor the last. So, the border (in more general understanding – any interface phenomena) is a category, reflecting wholeness, connection, relationship. Besides, the border as four-element entity reflects a principle of "four alternatives" of Indian logic (the logical and worldview preference is simultaneously given to: 1. "subject", 2. "object", 3. "both the first and the last", 4. "neither the first, nor the last"), corresponding to the four Buddhist levels of fathoming the Being, as well as expresses the four possible logical co-ordinations between any extremes, which Y. A. Urmantsev uses as four world view "preferences" for resolving the main question of philosophy. V. À. Kartashov writes about four types of systems, conceptually inserting in the frames of four alternatives: 1) passive systems, 2) active systems, 3) systems, which unite characteristics of passivity and activity, 4) neutral systems, which correlate directly with four types of adaptation reactions of any organism: 1) changing itself (autoplastics, altruism, right hemispheric passive state, supposing the attitude to the world with absolute trust, in the spirit of empathic merging with it, the realisation of principles "all in all" and "here and now"); 2) changing the environment (alloplastics, egoism, left hemispheric active state, supposing self-differentiation, the development of individual-personal, role principle, the attitude to the world in the spirit of sceptical reflection, resulted from the analytical forecast, the realisation of principle of "potential possibility", "anticipation of the future"; 3) both the first and the last (functional hemispheric synthesis); 4) neither the first, nor the last – the state of deepening the hemispheric synchronisation, supposing a possibility of mutual "annihilation" of hemispheric functions, when nobody adapts to nobody. We may say, that a harmonious, holistic person equally covers all these alternatives both on somatic and psychological levels.

## 6. CONCLUSIONS

We would like to hope that the ideas presenting here, though in a rather fragmented way, lay a certain foundation to the concept of the *ecology of wholeness*, for they are based on the concept of wholeness and the phenomenon of wholeness is the main revelation of XX century. Regrettably, the fields of scientific research in the domain of ecology (as well as in many other spheres of our life) are partly isolated and locked in separate countries. At least the states of former USSA and those of Europe and North America are not integrated in pursuit of "philosophical truth", directed at understanding and hence resolving the most urgent ecological problems of our day. Concerted efforts are needed to fathom the total meaning of our existence, since the humanity has reached a certain cross-roads of its evolution. The human civilisation as a system has entered upon the so called "point of bifurcation", where this system becomes sensible to the subtlest influence and is able to be changed drastically at the faintest external impulse. Here we must understand, that our planet as a holistic ecosystem is characterised by a certain critical number of species and sorts of plants, under which the lethal point of bifurcation is revealed. So, fundamental understanding of the Being is badly needed and this understanding is gained with the help of complex scientific research uniting different fields of knowledge. Pragmatically and instrumental ideology of modern life is going to be outdated. The phenomenon whose name is wholeness is gaining momentum with every passing year. The *axiom of wholeness*, which we postulate, presupposes that any problem be solved "in favour of wholeness".

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## TABLE OF CONTENTS

### Session No 1

#### Plenary Session

Monday 30 August, morning, room A

Session Chairmen: D. Panagiotakopoulos – N. Spyrellis

#### **Panagiotakopoulos D.X.**

The Scientist, the Environment and Policy making: the anatomy of the conference 1

#### **Vlachos E.**

Setting up the scene 7

#### **Beriatos E., Kungolos A., Papadopoulows S., Vatseris C.**

Environmental investigation of the subsurface and soil decontamination by Bio-Venting technique inEvosmos 13

#### **Spyrellis N., Lazana D., Karavanas, A., Haloulakou A., Galanopoulou E., Papadopoulos P., Stratigaki Th.**

Determination and assessment of risk due to to hazardous chemicals in SMEs foundries and surface treatment plants 17

#### **Ganev V.S., Petropoulos A.**

Balkan endemic nephropathy and its putative environmental and genetic causes: A Review 23

### **Session No 2**

Subject: Environmental Policies and Sustainable Development

Monday 30 August, afternoon, room B

Session Chairmen: E. Vlachos - D. Panagiotakopoulos

#### **Tassios D.**

Management of resources for sustainable development: Entropy "shows" the way 27

#### **Voznyuk O.V., Ovander L.M., Ovander S.L.**

Ecology as a philosophical problem: on the concept of the ecology of wholeness 35

#### **Tsiliyannis C.A.**

Superposition of environmental damages and effect on environmental policies 43

#### **Achilias D.S., Kungolos A., Sanopoulos D.**

Indicators of sustainable development in Greece 46

<b>Ha Huong</b> Environmental policies and natural resource management in Southeast Asia- Contemporary issues	<b>49</b>
<b>Papajannopoulos A.</b> Land use economics aiming to viable development	<b>53</b>
<b>Eyles J.</b> Environmental policy under uncertainty: Case-studies of claims-making	<b>57</b>
<b>Kolokytha E., Mylopoulos Y.</b> Perspectives of a sustainable water supply policy in Greek islands	<b>61</b>
<b>Georgiades N., Cartalis C., Proedrou M.</b> MEDACT-APHRODITE project. A collaboration of Cyprus and Greece for environmental policy and legislation	<b>66</b>

### **Session No 3**

#### **Subject: Water Quality**

Monday 30 August, afternoon, room C  
Session Chairmen: N. Graham – A. Lazarou

<b>Kostopoulou M., Golfinopoulos S., Nikolaou A., Xylourgidis N., Lekkas T.</b> The occurrence of volatile halogenated organic compounds in the surface waters of N. Greece	<b>73</b>
<b>Montesanto B., Ziller S., Panayotidis P.</b> Ecological quality of running waters in NE Chalkidiki: Biological indicators/diatoms	<b>77</b>
<b>Mallikopoulou J., Vassilandonopoulou G., Koronakis D., Tzoumerkas Ph., Xenos D.</b> Microbiological, toxicological and chemical study of Mornos reservoir U.V.- disinfected water	<b>81</b>
<b>Nanou-Giannarou A., Andreadakis A., Lazarou A.</b> Pollution of the water resources in Greece due to agricultural activities	<b>86</b>
<b>Jennings J.R., White K.N., Lazaridou-Dimitriadou M., Lekka E.</b> A preliminary investigation into the ordination and classification of Greek rivers	<b>90</b>
<b>Skoulikidis N.Th., Gritzalis K., Bertahas I., Koussouris Th.</b> Environmental quality assessment of a Mediterranean river system	<b>94</b>
<b>Drouin S.A., Artemiadou V., Lazaridou-Dimitriadou M., White K.N.</b> An integrated water quality assessment of the river Axios during the 1998 low flow season	<b>97</b>
<b>Tsanis I.</b> Evaluation of the impact of effluent discharges on a proposed water intake	<b>100</b>
<b>Belic S., Savic R., Belic A</b> Water quality in view of the irrigation needs	<b>105</b>

**Session No 4**

**Subject: Air Pollution**

Monday 30 August, afternoon, room A

Session Chairmen: N. Moussiopoulos -Dem. Asimakopoulos

<b>Michopoulos K., Theoharatos G.</b> Study of the effective temperature index in Athens	<b>109</b>
<b>Eleftheriadis K., Chung M.-C., Michaleas S., Colbeck I.</b> Atmospheric aerosol evolution and transport over Athens	<b>111</b>
<b>Asimakopoulos D.N., Helmis C.G., Mousiopoulos N., Lykoudis S., Flocas H.A.</b> Experimental study of air mass advection over the greater Thessaloniki area	<b>114</b>
<b>Papageorgopoulou A., Manoli E., Touloumi E., Samara C.</b> Polycyclic aromatic hydrocarbons in the ambient air of Greek towns in relation to other atmospheric pollutants	<b>119</b>
<b>Sitaras I.E., Siskos P.A.</b> Study of the gas/particle partitioning of selected PAHs in the atmosphere of Athens	<b>121</b>
<b>Tsilingiridis G., Mitsopoulos D., Papageorgiou V., Psychoyios P.</b> NMVOC emissions from solvent use in Greece	<b>125</b>
<b>Gregoriades Y.</b> Statistical analysis of flue gases measurements in central heating devices	<b>127</b>
<b>Duci A., Haloulakou A., Spyrellis N.</b> Exposure of city residents to Co in Athens urban area: microenvironmental studies of personal Co exposure	<b>130</b>
<b>Dimashki M., Harrison R.M.,</b> Polycyclic aromatic hydrocarbons (PAH) and their Nitrated Derivatives (Nitro-PAH) in the urban atmosphere	<b>134</b>

**Session No 5**

**Subject: Environmental Modelling**

Tuesday 31 August, morning, room B

Session Chairmen: N. Vlachos – T. Lekkas

<b>Pelekasis N.</b> Effect of rainfall on airfoil performance	<b>139</b>
<b>Chatziioannou A.E., Gerfen J.B.</b> Microscale emissions modeling system	<b>141</b>
<b>Mavroidis I.</b> Atmospheric dispersion through obstacle arrays	<b>145</b>
<b>Assimakopoulos V., Theodoridis G., Moussiopoulos N., ApSimon H.M.</b> A numerical study of the influence of building geometry on the wind and dispersion characteristics in urban areas	<b>148</b>
<b>Elkamel A., Ahmed R., Alper E.</b>	<b>150</b>



Optimal air pollution control	
<b>Benvenuto F., Marani A., Silvestri S.</b>	<b>153</b>
Data quality control and air pollution nowcasting by neural networks	
<b>Feidas D.K., Sarris I.E., Vlachos N.S.</b>	<b>157</b>
Simulation of dispersion and deposition of gaseous and particulate atmospheric pollutants	
<b>Moussiopoulos N., Sahm P., Papalexiou S., Helmis C.</b>	<b>160</b>
Simulation of transboundary air pollution to and from Greece	
<b>Latsa M., Kyrkilis D., Stamou A., Assimacopoulos D.</b>	<b>163</b>
Simulation of circulation in aeration tanks	
<b>Tsirsis G., Karydis M.</b>	<b>167</b>
Application of discriminant analysis for water quality assessment in the Aegean	
<b>Zacharof A.I., Butler A.P.</b>	<b>170</b>
A stochastic model of landfill leachate and gas production incorporating waste heterogeneity	
<b>Kritidis P., Florou H., Chaloulou Ch.</b>	<b>174</b>
The Chernobyl accident as a model for radiological risk mapping of Europe	

#### Session No 6

#### **Subject: Solid waste management**

Tuesday 31 August, morning, room A

Session Chairmen: C.Voudrias - C. Halvadakis

<b>Panagiotakopoulos D., Dokas L.</b>	<b>178</b>
Minimizing landfill soil-to-refuse ratio through daily cell design	
<b>Lekkas E.L.</b>	<b>182</b>
Landfill response to seismic loading	
<b>Perkoulidis G., Karagiannidis A., Moussiopoulos N.</b>	<b>186</b>
Modelling waste-tire management with emphasis on energy-recovery logistics	
<b>Koliopoulos T.C., Fleming G., Skordilis A.</b>	<b>190</b>
Variation of landfill gas production according to the waste composition	
<b>Tagaris E., Halvadakis C.P.</b>	<b>195</b>
Estimating biogas production in MSW land disposal sites	
<b>Gyftou P., Psarrou S., Kollia C.</b>	<b>199</b>
An overview on treatment of the wastewaters and sludges from electroplating plants-EU legislation	
<b>Zorpas A.A., Vlyssides A.G., Loizidou M.</b>	<b>204</b>
Co-composting of sewage sludge and organic fraction of municipal solid waste in the greater Athens region	
<b>Panagiotakopoulos C.</b>	<b>208</b>
A cost-benefit analysis for municipal composting plants	

<b>Giannoulidis N., Zabaniotou A.</b> Economical evaluation of domestic wastes incineration	<b>213</b>
<b>Balis M., Mandylas Ch., Kontos Th., Halvadakis C.P.</b> MSW land disposal siting methodology (The case of Lesvos Island)	<b>218</b>
<b>Panagiotakopoulos C., Psalti A.</b> Regional solid waste management in Thrace through spreadsheet ILP modeling	<b>223</b>
<b>Christoulas D., Andreadakis A., Razis J., Hadjibiros K.</b> The municipal solid wastes regime in Greece and relevant European policies	<b>227</b>

**Session No 7**

**Subject: New Technologies and trends (I)**

Tuesday 31 August, morning, room C

Session Chairmen: D.Tassios -T. Albanis

<b>Voutsas E.C., Tritopoulou E.A., Pappa G.D., Tassios D.P.</b> Thermodynamic applications in Environmental Engineering	<b>231</b>
<b>Voros N., Magoulas K., Maroulis Z., Papadimitriou J.</b> Innovative pilot project for water recycling from wastewater of milk collection stations	<b>234</b>
<b>Yakoumis I.V., Kontogeorgis G.M., Kiriakopoulos Sp., Hadjichristidis N.</b> Polymers and environment: Trends, practices and prospects	<b>237</b>
<b>Jobby A., Aggidis D., Simon J., Efstathiou H., Zagoyianni H.</b> Athens sewer odor elimination method with nitrate solution addition	<b>240</b>
<b>Hatzianestis J., Sklivagou E.,Georgakopoulou E.</b> Hydrocarbons, pesticides and PCBs in sediments from Thermaikos gulf	<b>244</b>
<b>Konstantinou I.K., Sakellarides T.M., Albanis T.A.</b> Photodegradation of selected herbicides and insecticides in natural waters under sunlight irradiation	<b>249</b>
<b>Kotrikla A., Gatidou G., Lekkas T.</b> The HPLC separation of a mixture of herbicides: Effects of temperature and gradient steepness	<b>253</b>
<b>Gavalaki E., Andreadakis A.</b> Removal of asbestos fibers and pesticides during water treatment	<b>257</b>
<b>Rigas F., Panteleos P., Laoudis C.</b> Particle and oil removal from oily water by induced air flotation	<b>261</b>
<b>Mastral A.M., Callen M.S., Murillo R., Garcia T.</b> Assessment of polyaromatics emitted from modern power plants	<b>266</b>

### Session No 8

#### **Subject: Environmental Impacts**

Tuesday 31 August, afternoon, room A  
Session Chairmen: C. Helmis – D. Diakoulaki

- Parcharidis I., Gatsis I., Psomiadis E., Stamatis G.**  
Landsat TM data and information technology to potential water pollution detection in Vegoritis-Petron lakes (Greece) **370**
- Helmis C.G., Larssen S., Aalst R.v., Manalis M., Lykoudis S.**  
QA/QC criteria for the selection and quality classification of Euroairnet stations. **274**
- Kanaroglou P.S.**  
New transportation links and urban air quality: the red hill Greek expressway, Hamilton, Ontario **277**
- Vossiniotis G., Schmid S., Assimacopoulos D., Friedrich R.**  
Integration of a Geographic Information System in a transport externalities assessment tool **281**
- Borrego C., Miranda A.I., Conceicao M., Carvalho A.C., Lopes M., Tchepel O.**  
Climate change and air quality management: emissions and consequences **286**
- Sitara A., Assimacopoulos D.**  
Policy measures and conditions for the diffusion of the electric vehicle in Athens **291**
- Miragedis S., Diakoulaki D.**  
Incorporating environmental externalities in the long-term planning of the Greek electric system **297**
- Kaldellis J.K., Kodossakis D.**  
Investigation of the environmental impact of wind turbines installations **302**
- Kolokythas G., Haralambopoulos D., Paraskevas P., Lekkas T.D.**  
Energy consumption in the wastewater treatment plants in the Aegean islands and renewable energy potential **306**

### Session No 9

#### **Subject: Ecosystems**

Tuesday 31 August, afternoon, room C  
Session Chairmen: B. Samotokin – K. Hadjibiros

- Samotokin B.B.**  
Human ecology on the territory with increased level of radiation **310**
- Florou H., Tsitsugina V., Polikarpov G.G., Margaritis J.**  
Radiological assessment of environment by analysing cytogenetic effects in natural aquatic populations **315**
- Gazea A., Koukoumides C., Lazaridou-Dimitriadou M., White K.N.**  
Heavy metals in tissues of Gammarus SPP. (Amphipoda, Crustacea), from a mining area of Chalkidiki **319**
- Strogloudi E., Catsiki V.A., Symboura N.**  
Bioaccumulation of Cr, Ni, Fe from benthic organisms from N. Evoikos Gulf. Relation with ecological indices. **323**

<b>Arvanitidou M., Kanellou K., Constantinides T.C., Katsouyannopoulos V.</b>	
A survey on the occurrence and significance of fungi in potable waters	327
<b>Sarkar S.K., Giri S., Misra A., Bhattacharya A., Bhattacharya B.</b>	
Studies on polychaetes (annelida) from eastern coastal part of India	331
<b>Lekkas D., Plomaritis Th., Tsirtsis G., Karydis M.</b>	
Antifouling toxicity on marine microalgae	335
<b>Petanidou Th.</b>	
Long-term intraspecific variations in nectar secretion in the phrygana: implications for ecological management	339
<b>Koukouvinos A., Hadjibiros K., Kyritsis E.</b>	
Presentation of designated and proposed S.O.N.B. using the "Filotis" database	343

### **Session No 10**

#### **Subject: Waste-Water Treatment**

Tuesday 31 August, afternoon, room A

Session Chairmen: C. Andreadakis – V. Economopoulos

<b>Stasinakis A., Mamais D., Paraskevas P.A., Lekkas T.D.</b>	
Evaluation of kinetic parameters estimation methods in activated sludge systems	346
<b>Kaimakamidou V., Yiannakopoulou T.</b>	
Evaluation of the accuracy of activated sludge activity parameters	349
<b>Magoulas A., Aggidis D., Zagogianni E.</b>	
Evaluation of characteristic parameters of the industrial wastewater to be treated at the Metamorphosis Wastewater Treatment Plant	354
<b>Hatziconstantinou C.J., Andreadakis A.</b>	
Nitrification-denitrification systems under transient loading conditions	358
<b>Andreadakis A., Mamais D., Noutsopoulos C., Gavalaki E.</b>	
The problem of bulking sludge in Greek wastewater treatment plants	363
<b>Thodos I.</b>	
Anaerobic sludge digestion of domestic wastewater. Digesters evacuation-maintenance and re-operation	369
<b>Filos J., Ramalingam K., Katehis D., Carrio L.A., Fragias J.</b>	
Full scale evaluation of the step feed BNR process at the Tallman Island WPCP	374
<b>Economopoulou M.A., Economopoulos A.P.</b>	
Potential use of natural systems for treating municipal effluents in Greece.	379
<b>Graziou M., Anagnostopoulos K.P.</b>	
Construction cost of municipal wastewater treatment plants with aquatic plant in a subsurface system	383

### Session No 11

**Subject: New Technologies and trends (II)**  
Wednesday, 1 September, morning, room B  
Session Chairmen: G. Lyberatos – V. Tsihritzis

- Lambert S.D., Graham N.J.D., Sollars C.J.**  
Potential of inorganic adsorbents for dye adsorption and chemical regeneration 387
- Zhang Jimming, Brady Kevin T., Ren X. Sean**  
Removal and recovery of nickel from electroplating waste solution by precipitate flotation 392
- Voice T.C., Zhao X.**  
Biological activated carbon fluidized-bed reactor (BAC-FBR) system for treatment of contaminated groundwater 395
- Katsogiannis A.N., Kornaros M., Lyberatos G.**  
Long-term effect of cycle time and aerobic/anoxic phase ratio on nitrogen removal in a sequencing batch reactor 399
- Poulios I., Violaki K., Tsoumparis P., Katsougiannopoulos B.**  
Photocatalytic oxidation of NO<sub>2</sub> – ions and NH<sub>3</sub> in water 403
- Grigorieva E.N.**  
Some natural catalysts behaviour in coal treatment 407
- Sopajaree K.**  
Photocatalytic oxidation of methylene blue by titanium dioxide in a photoreactor 412
- Christoforou S.C., Iliopoulou E.F., Efthimiadis E.A., Nikolopoulos A.A., Vasalos I.A.**  
Novel bifunctional catalytic systems for the SCR of NO<sub>x</sub> using hydrocarbons as reductants 416
- Nikolopoulos A.A., Stergioula E.S., Christoforou S.C., Efthimiadis E.A., Vasalos I.A.**  
Selective reduction of NO on Rh/alumina catalysts: effect of metal loading 419
- Zake M., Turlajs D., Purmals M.**  
Electric field control of NO<sub>x</sub> formation in a flame flow 423
- Katsikaris K. Vrachnos A., Pouloupoulos S., Philippopoulos C.**  
Influence of oxygenated compounds in gasoline on exhaust emissions 428

### Session No 12

**Subject: Waste-water management, Marine pollution**  
Wednesday 1 September, morning, room A  
Session Chairmen: S. Varnavas – M. Angelidis

- Sokolov N.V.**  
Theory achievements of protection of environment against disperse pollutants in wastewater treatment 433
- Papadopoulos A., Papadopoulos F., Parisopoulos G., Metaxa E.**  
Operational results of stabilization ponds in the region of river Gallikos, Thessaloniki, Greece 436

<b>Davis J.S.</b> The brine biological system and its management in the seasonal solar saltworks	<b>439</b>
<b>Hoefken M., Huber P., Steidl W.</b> The treatment of wastewater from breweries	<b>443</b>
<b>Karnavos N., Rafaelidis A.</b> Refinery oily sludge management	<b>447</b>
<b>Kemmadamrong P., Aukraphasuchat W.</b> Performance study of wastewater treatment by sand-media aerobic biological filter	<b>450</b>
<b>Dassenakis M., Arsenikos S., Botsou F., Depiazi G., Adrianos H., Zaloumis P., Drosis G.</b> General trends in marine pollution of the central part of Euvoikos Gulf	<b>454</b>
<b>Voulvoulis N., Scrimshaw M.D., Lester J.N.</b> Biocides from antifouling paints in the aquatic environment	<b>459</b>
<b>Karavoltzos S., Dasenakis M., Scoullou M.</b> Monitoring of lead, copper and zinc from land base sources in the Gulf of Elefsis	<b>500</b>
<b>Angelidis M.O., Gavriil A.M.</b> Determination of dissolved/dispersed petroleum hydrocarbons in the coastal zone of Mytilene	<b>504</b>
<b>Kaldellis J.K., Vlachou D., Konstantinidis P.</b> Sea pollution by oil products. A comparative study of combating oil spills in the Aegean sea.	<b>509</b>

### **Session No 13**

#### **Subject: Environmental pollution and Human health**

Wednesday 1 September, afternoon, room C

Session Chairmen: V.Ganev-K.Chou

<b>Gritzalis K.C., Koussouris T.S.</b> Quality indices in habitats of technical works and natural flows	<b>512</b>
<b>Antoniou V., Tsoukali H., Zantopoulos N., Dimitriou A.</b> Human dietary intake of lead and cadmium from animal tissue consumption	<b>514</b>
<b>Chou K.</b> Disruption of sperm production and puberty in mice by great lakes contaminants	<b>519</b>
<b>Kontos A.S., Fassois S.D., Deli M.F.</b> Parametric dynamic modeling of the short-term effects of air pollution on children respiratory illness	<b>522</b>
<b>Elliott S.J., Cole D.</b> Alternative models of health risk assessment in an urban industrial neighbourhood	<b>525</b>
<b>Tsaroucha A., Tsihrintzis V.</b> Public and occupational health in Environmental Engineering curricula	<b>529</b>

**Session N 14**

**Subject: Ground water pollution and management**

Wednesday 1 September, afternoon, room A

Session Chairmen: E. Diamadopoulos –

D. Sabatini

**Zevgolis M.N., Gaitanos J.F., Kontos J.L.**

Hadling of electrical furnace slags and environment in Greek ferronickel metallurgy

**533**

**Koukouraki E., Katsouli V., Diamadopoulos E.**

Polynuclear aromatic hydrocarbons in urban and rural soils from the Chania area

**536**

**Voudrias E.**

Clay liners for solid and hazardous waste landfills: How effective they really are?

**538**

**Anastasiadis P.**

Simulation of contaminant transport. Application of principal direction technique in a shallow aquifer.

**541**

**Karatzas G.P., Pinder G.F.**

Applications of operations research theory to groundwater management problems

**543**

**Sabatini D.A., Harwell J.H., Knox R.C., Wu B., Hasegawa M.**

Surfactant selection for enhanced soil remediation

**544**

**Kolitsa D., Komnitsas K., Chalikia E.**

Use of water covers for the prevention of acid mine drainage generation

**547**

**Park Hun Seak**

A method for assessing soil vapor intrusion from petroleum release sites: multi-phase/fraction partitioning

**550**