



## ***Science, Ethics and Bioethics: myth and reality***

Organized by António Barbosa (Centre for Bioethics, Faculty of Medicine of the University of Lisbon & Centre for Philosophy of Science of the University of Lisbon)

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### **Abstracts**

#### **Bioethics and Epistemology**

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The possibilities of a moral epistemology are questioned which allows to distinguish true and false ethical statements and rely on instruments indispensable to form valid judgments about prescriptions and actions. We describe new theoretical approaches and more comprehensive methods than the current principlist bioethics posture, enabling more appropriate responses to current problems and expanding the conceptual horizon using methods that facilitate an understanding of everyday ethical issues.

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#### **Therapeutic myths and informed consent.**

*Fernando Martins do Vale* (Faculty of Medicine of the University of Lisbon)

History of Science is a cemetery of false theories and errors, but also of a list of scientific progress obtained by the correction of errors, as Popper said. What distinguishes science from pseudoscience is not the absence of errors, but the Science capacity of auto-analysis, with transparent diagnosis of errors and their causative bias factors, trying their elimination by the rigorous scientific method.

The recognition of errors implies the critical Cartesian doubt with its uncomfortable insecurity, which is well reflected in Osler aphorism “Medicine is the Science of uncertainty and the Art of probability”. The evolution of Medicine from a paternalistic pattern to a participative model, with an increasing empowerment of patients, implies the transparent disclosure to patients of facts, including uncertainties and adverse effects of treatments, because autonomy demands trustworthy information to do wise informed choices.

The success of modern medicines (antibiotics, insulin, etc) has increased life expectation/quality, but many disastrous cases (thalidomide and others) must also be

remembered to implement rigorous regulatory measures (actually applied to medical therapies) to avoid their repetition. Informed risks of medicines are uncomfortable for many patients that prefer the virtual security of myths like those offered by “miraculous medicines or therapies”.

Alternative Therapies (Homeopathy, Herbal medicines) have very permissive regulations, but they should be subjected to the same rigorous regulations as Medicine and pharmaceutical products, because is the only way to obtain trustworthy information to do informed choices, and because traditional therapeutic use does not eliminate errors, as demonstrated by History of Medicine’s ghosts (bleedings/purges).

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## **The binominal vision-brain**

Joaquim Monteiro

Vision seems so effortless that we take it for granted. Images seem easy to deal with and are used as powerful symbols in society. However the visual process is complex and what we see isn’t always what we get.

Visual processing involves distinct brain areas: information about color and movement is processed in different cortical areas and binocular vision implies complex biologic and psychological components.

The brain is constantly interpreting and correcting the visual input from the eyes. Visual illusions deceive the brain into incorrectly perceiving something that is present or that does not exist.

Visual illusion is a brain construction that reveals the limits of visual perception and can be used to understand normal vision by illustrating organizational mechanisms.

Neuroimaging and cognitive neuroscience are improving the understanding of the binominal vision-brain and showing that vision emerges from the collaboration of different areas in the brain.

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## **Beyond the cultural myopia: the challenge of bioethical imagination**

Tatiana Marques

In the second half of the 20<sup>th</sup> century, the consolidation of the interdisciplinary field of bioethics both in Europe and in the United States of America was accompanied by strong criticisms coming from the social sciences that have persisted and been reconfigured ever since. This presentation begins with a discussion of an important criticism formulated by Renee Fox and Judith Swazey (1984) about the «cultural myopia» of bioethical thinking that generally manifests itself in the form of a systematic inattention to their social (beliefs, values and norms) and cultural



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(traditions) sources. It was argued that such inattention could be rectified through the relocation of social scientists in general, and sociologists in particular, from the periphery – where they still are – to a central place in the field of bioethics. In order to analyze this distant and controversial relationship between the social sciences and bioethics, their different approaches, respectively oriented by descriptive and normative ethics, were examined. The specific intersection of sociologists with bioethical thinking was also examined in accordance with an analytic continuum that illustrates an evolution from a collaborative position – sociology *in* bioethics – to an independent and free position – sociology *of* bioethics – adopted by those social scientists. At the end of this presentation, it was suggested the incorporation of «sociological imagination» (Wright Mills, 1959) in the processes of ethical deliberation on moral problems that emerge in biomedical research and clinical practice. In this regard, an epistemological reflection was called up, examining about the influence of social and cultural sources of morality in the way such problems have been challenged by the bioethical imagination.