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Editoriale: The unveiling of a particular system path/Il disvelamento di un sentiero sistemico particolare (D.P. Errigo)

Editoriale: Take the risk under control is “the Black Swan” nearer and nearer? (M.R. Astolfi)

The Art of Art Communication / L’arte di comunicare l’arte (L. d’Alessandro)

Abstract

The topic of communication between doctors and patients is acquiring an increasing significance in the domain of contemporary medicine. Therefore, several questions can arise and are here analyzed: how can it be possible to communicate the medical-surgical art? Who are the subjects entitled to receive the medical-surgical art communication? Is the art of communication part of the medical-surgical art or is it an art by itself? Moreover, how can a communication of the medical-surgical art be possible for those who had chosen to become doctors and surgeons? The answers are in The Art of Art Communication.

“SYSTEM THEORY AND COMPLEXITY” Book Series

La società del rischio/la società a rischio (F. Vespasiano)

Una riflessione sull’ipotesi di riduzione della complessità (E. Martini)

L’opinione di Loet Leydesdorff e Henry Etzkowitz (a cura di E. Martini)

Decision making under risk and uncertainty (G. Marcarelli, M. Squillante)

Abstract

The most common model used for decision making under risk and uncertainty is the Expected utility theory (EUT). It has been accepted as a normative model of rational choice and widely applied as a descriptive model of economic behavior. Despite its prescriptive and normative strengths, the principle of expected utility theory maximization has encountered many problems: experimental evidence as well as choice patterns observed in the real world suggests that individuals often do not behave in a manner consistent with this model; in other words, human choice behavior deviates in systematic ways axioms of that theory, as captured originally in two classical demonstrations referred to as the Allais (1953) and Ellsberg (1961) paradoxes. The limits of the expected utility theory have led many authors to search new models for the representation of decision making under uncertainty. A large number of models alternative to the EUT are proposed to try to bridge the gap between theory and reality. This paper supplies an overview of EUT, its generalizations and some hints for further approaches and it is organized as follows. In section 2 the principle of EU maximization is described; in section 3, after underlying limits of the EUT, some paradoxes are analyzed; in section 4, the SEU theory is presented; in section 5 the risk aversion is faced and some risk measures are described; in section 6 some models alternative to EU are showed by means of the Marschak-Machina triangle; finally, in section 7 some concluding remarks are provided.

Il newsmaking convergente: effetto speciale o di sistema? (TITOLO VERO DELL’ARTICOLO) (I. S. Germano)

Abstract

Globalization increasingly mobilizes the whole heritage of cultures in time as it no longer depends on the governance patterns and forces consolidated to reflect on the concept of meaning in sociology. The sense takes on a meaning, in some ways, the conventional focus on individuals more and more individualized in continuous self-adjustment of the system environment, such changes without order and cancellation of culture. The point of the features a highly improbable event. The critical issue concerns the relational-posting from the set of relationships and ethical responsibility, aimed at the common good relationally generated, for which it can operate the way to investigating the human relationship, as an active agent, and reflective. The analysis tool will be critical sociological realism that puts the “why” of life experience of people, in light of recent Concerns, compared to which the constructivist sociological theories do not give answers and do not see education as a socialization genres people are more human, humanizing society.

Tecnologia e Futuro (a cura di M. R. Astolfi)

Abstract

This interview outlines the synthesis of a story of a meeting with the technology of the "beginnings" just to arrive, through an experimental and conscious way, to nowadays in which the electronic systems, with highly technological contents, produce strong expectations in the present society that are manifest in those biotechnological semi-futuristic hypothesis on the threshold of realization. It is a rapid excursus that sees technology as the starting and the arrival points which becomes either the barycentre of strategic personal choices and an evolutionary path vision.

The development of a neural simulation (D.P. Errigo)

Abstract

The object of this study has a systemic content and contributes to Systemics in general and, in particular, in the following sectors:

- Cybernetics, Automata, Robotics
- Systemic and medicine

The object of this study was to create an elementary electronic circuit which can produce signals that are similar to those produced by intracellular and extra-cellular circuits.

*The results, obtained in the course of several experiments of **necessarily here simplified** computerized circuit simulations, are comparable to those produced by neural circuits that are described in the literature. Based on these results I think that we can create bionic (artificial) cells which can functionally act like stem, glial, or other kinds of biologic cells.*

General Purpose

In this essay I want to show how I can produce physiological signals and, obviously, therapeutic countersignals. The purpose is to assert that we can act in an invasive way at an almost cellular level, with replacements, or by-passes, on clusters of neurons, that are damaged or blocked by internal or external causes. The installation of artificial nervous cells, mainly produced with nano-technology methods, can be a new way to regenerate nervous faculties which can be compromised in various ways: a localized injection of opportunely programmed nano-bionics cells, to restart the circuits, all or in part blocked, would be adequate. I think that, in this way, we can obtain the same effects of traditional medical treatments, with the knocking down of direct and indirect costs, due to the management of ready interventions and of the following phase of specific pathologies.

Possible application of the research

Here I present a project which deals with the realization of:

- an artificial brain, or its principal components, and the various peripheral nervous components, in order to contribute to the cure or the recovery of some invalidating diseases like Tetraplegias, Parkinson, Alzheimer, Stroke, Epilepsy and other;
- and a parallel super computer, whose basic structure is the modified human brain;

In several years of research, after having calculated the gamma of the interconnecting frequencies of a lot of neuron-conductors and determined the general proceeding, I have ideated and realized an inedited and revolutionary model for the mathematics and informatics simulation.

Starting from this I have realized the electronic-informatics simulation of the first 17 prototypes.

The assumption is that a particular double face device has to be realized:

- from the point of view of the computer and telecommunications, it has to function as an extremely powerful super parallel computer;
- from the point of view of medicine, it has to work as an external (and-or internal) by-pass which can activate the biochemical interconnections among the deficient neurons.

Successively, the realized devices can be also subjected to a process of nano-technology in order to obtain a central nucleus with ramifications, which leads to:

- from the point of view of medicine, the realization of a whole nervous bionic system to use totally or in part (at a biologic speed and with biological parameters). We can easy think to medical solutions and above all to a synergy with the actual proposal of stem and glial cells;
- from the point of view of the computer and telecommunications, the realization of a real artificial brain with branches which can be connected either by the artificial or human user parts (a real artificial nervous system which can work at the speed of light).

I must add that this project leads to the complete upsetting of the actual operative philosophy in the realization of computers and in the realization of bionic elements, which are manageable and interchangeable. I assume the point of view of pc and telecommunications too, because the projected electronic-informatics modules have analogical-digital converters, and they can be also configured exactly like Chips. From this, the possibility of tele-control. The device is projected to cure and/or manage (i.e. tele-cure and/or tele-managing) the interested pathologies.