

ECOSYSTEM AND SYSTEMIC



At a time when environment is at the core of our preoccupations and life itself seems to depend on our ability to conciliate human development and the framework of reality in which it takes place, the concept of ecosystem plays a prominent role.

Its finality is to build consensus on the factors that influence such or such characteristic we focus on, how much they are correlated or dependent in a finite spatial-temporal scope (Co₂, biodiversity, endocrine modifier, chemical pollution...) and, as a consequence, to determine which action we might take to prevent consequences of our behavior we deem harmful. It must therefore be regarded as a tool to rationally master the stakes that matter to us, and to overcome slogan, marketing posture, good-looking false evidence, that hamper our efficiency and may be counterproductive.

The fundamental obstacle is that « System » though a quite widespread wording, is still missing a general definition of scientific character that would make it possible to state consensually “this is a system” or “this is not a system”, to measure characteristics, to validate hypothesis and to evaluate action. Relativized Systemic -www.mersyse.com - (RS) proposed such a definition, formally built with RS physically meaningful algebra (category theory), based on the fundamental work achieved by Pr. M. Mugur-Schächter rooted in quantum physics. Without getting into the formalism, let’s consider the light it projects on the ecosystem concept.

First after RS, a “system”, as any other entity, is a built concept, that does not point to some ontological structure of reality. This building may be purely conceptual, as it happens with common entities (a



chair, a fish, a tree, a forest ...) we “recognize” through correlated perception/qualification experiences. Any existence is thus relative to a finite set of views and associated qualification grid... what entails too that the construction may vary when you change of perspective....

An ecosystem won't be the same and won't be given the same limits if you focus on the population of fishes in a lake or on the broader scope of the long term consequences of chemical pollution in a watershed to which the lake may also belong. If several perspectives are relevant to qualify simultaneously a given perimeter, we'll speak of “compatible views”. This stresses the paramount importance of the factual criteria we regard as meaningful relative to a given finality since they also determine the basis on which we can consensually draw conventional limits specific to a given focus, to be able to measure, to build causality chains and to act.

The particularity of a system after RS, is that both it is generated out of preexisting entities and that the inner causality structure that “explains” its qualifications is based on the same entities that generate it as a system... This is typically the finality for an “ecosystem” designed “ad hoc” to measure and explain the emergence and the evolution of such or such feature (the population of fishes in the lake, potable water in a watershed...). Let's note that this inner causality may be deterministic or purely statistic - like the collision between molecules for the pressure and temperature of a gas or a lake sunshine rate for the population of fishes. This is also a matter of perspective: if you consider a mayonnaise is made of vegetable oil and eggs, you no longer find them in the achieved mayonnaise... this is not a system.... But if you consider it is made of lipid, carbohydrate, and protein, then you do find them in the end product and you may regard it as a system.