

From Matter to Life: Chemistry ? Chemistry !

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The evolution of the universe has generated more and more complex matter through self-organization, up to living and thinking matter. Animate as well as inanimate matter, living organisms as well as materials, are formed of molecules and of the organized entities resulting from the interaction of molecules with each other. Chemistry provides the bridge between the molecules of inanimate matter and the highly complex molecular architectures and systems which make up living organisms. Molecular chemistry has developed a very powerful set of methods for constructing ever more complex molecules. Supramolecular chemistry seeks to control the formation of molecular assemblies by means of the interactions between the partners. The designed generation of organized architectures requires the handling of information at the molecular level in a sort of molecular programming, thus also linking chemistry with information science. The field of chemistry is the universe of all possible entities and transformations of molecular matter, of which those actually realized in nature represent just one world among all the worlds that await to be created. Conceptual considerations on chemistry and science in general will be presented.