BIG QUESTIONS COME IN BUNDLES, HENCE THEY SHOULD BE TACKLED SYSTEMICALLY

Mario Bunge

Department of Philosophy

McGill University

Problems come in all kinds and sizes. Small problems call for the use of known tools found in circumscribed fields, whereas big problems call for further research, which may require breaching disciplinary walls. This is because every small problem concerns some separable system whose components are so weakly linked with one another, that it may be reduced to an aggregate, at least to a first approximation.

I submit that (a) every problem concerns some system, and (b) analysis works only provided the system components are so loosely linked, that they can be treated as if they were isolated items. These methodological assumptions are key principles of *systemism*, the philosophy first expounded by d'Holbach in the 18th century, and rescued by Bertalanffy and his companions in the general systems movement in the last century.

Systems and systemism are so little known in the philosophical community, that the vast majority of philosophical dictionaries have ignored them. By contrast, all scientists and technologists have practiced systemism–except when

they failed for having adopted either of the alternatives to systemism, namely atomism and holism.

A number of examples taken from contemporary science and technology are analyzed, from the entanglement typical of quantum physics to the design of social policies. Along the way we define the concept of a system, and note that (a) analysis is the dual of synthesis rather than its opposite; (b) systemism should not be mistaken for holism, because the former recommends combining the bottom-up with the top-down strategies; (c) systemism encourages the convergence or fusion of disciplines rather than reductionism. The recent replacement of GDP with more complex social indicators as the measure of social progress is regarded as a victory of the systemic view of society.

Finally, I argue that systemism is no less than a component of the philosophical matrix of scientific and technological research, along with epistemological realism, ontological materialism, scientism, and humanism. I also argue in favor of Anatol Rapoport's view, that systems theory is not a theory proper but a viewpoint or approach that helps pose problems and place them in their context.