## Why Systems Intelligence?

## Raimo P. Hämäläinen and Esa Saarinen

Our conviction is that human beings have an instinctive capability to face their environment from the point of view of engagement. This fundamental capacity is action-oriented and adaptive, holistic, contextual and relational, and links the subject to her environment as an ongoing course of progression. It amounts to an ability to connect with the complex interconnected feedback mechanisms and pattern structures of the environment from the point of view of what works.

We have suggested that it is useful to refer to this fundamental human capability as *systems intelligence*.

Our proposal assumes that it is useful to conceptualise human action and behaviour as taking place in the midst of *systems*: complex wholes which have properties that emerge from the functioning of parts many features of which are due to their connectivity, modes of interaction and mutual interplay.

The systems intelligence perspective approaches the human condition as an on-going engagement with wholes, and the wholes as "systems". An integrated whole on the move within the time axis, that is a system. Most distinctively, a system in this sense could be but need not be mechanical, controllable or knowable. Yet humans do possess operationally functional intelligence vis-à-vis such systems, thus succeeding to live in the midst of evolving complexities. We believe it is useful to have one phrase to refer to this fundamental human endowment: systems intelligence.

Systems intelligence may involve but does not reduce to objective knowledge of systems or intelligence about systems. There is no subject-object distinction implicit in systems intelligence, and the "systems" of systems intelligence need not be thing-like "objects" for an intelligence to focus upon from without. An infant is systems intelligent with her mother, and the mother with the infant: neither needs to know objectively what they amount to as a system, for that system to work.

The "systems" of systems intelligence are constructs, which have proved useful in the course of evolution or in the context of a particular human endeavour. Because the "systems" might not exist out there as objective entities, the primary

point is not to discover the ultimate truth of them as isolated objects. The point is survival and success with systems, in a life immersed in and embedded in systems.

Since its introduction in 2004, our notion of systems intelligence has proven useful in consultative and educational contexts. Radically different audiences find it intuitive. As a wide-ranging and readily applicable concept various kinds of people find the notion useful when structuring and conceptualising one's own actions and human behaviour in general. By introducing the term to the general public, we hope to have contributed, if in a modest form, to what William Oakeshott called "conversation of mankind".

As a theoretical construct, the concept of systems intelligence has already been applied to a number of fields and themes as diverse as leadership, productivity, architecture, dialogue, expert interaction, mergers and acquisitions, decision making, environmental conflict resolution, Goldratt's theory of constraints, the Sun Tzu, pedagogy in schools, emotional and social intelligence, forgiveness, the collapse of Enron, new value creation, communication, collaboration, and Ralph Stacey's theory of organisations. This work is continued in the current volume where the systems intelligence perspective is brought to illuminate and into a dialogue with such phenomena as philosophy for managers, David Bohm's theory of thought, emotions and decisions, the sociological affect control theory, Alexander's view on architecture, homiletics, food, the professional growth of a European champion ice skater, usability, infant research, facilitation mastery and the intersubjective systems theory of Stolorow, Atwood and Orange. Even if some of the articles presented in this and previous collections present only some first steps towards more scholarly studies, we believe the wide range of themes demonstrates the overall usefulness of the systems intelligence perspective. They hopefully encourage similar studies in the reader's own field of expertise and context of experience.

The systems intelligence initiative is somewhat unusual as a theoretical contribution because it seeks a broadband effect across disciplines as opposed to a narrowly definable impact on some particular established field of study. It is like a beam of light that hopefully brings to focus aspects of phenomena that more traditional theories and approaches overlook.

One distinctive characteristic of the systems intelligence approach is the way it seeks to integrate the scientific and humanistic traditions in its foundations.

As an outgrowth of systems thinking, the systems intelligence approach owes much to the rationalistic tradition that focuses on objectivistic modelling methods when approaching systemic phenomena. Often formalistic and modelling-oriented, at one extreme positivistic, this objectivistic tradition seeks to organize and predict, command and regulate the phenomena it describes. It is excited about order and regularity. As an approach to rationally driven impact, it calls for studies that investigate rigorously into the true nature of things. Centre stage is given to modelling and representation. The development of exact discourses appropriate for the presentation of such models is perceived as a primary objective.

All this is fine as far as it goes, but carries a hidden assumption according to which a good model automatically induces intelligent and productive action along the lines identified by the model. This intellectualist bias, a kind of theoretician's credo, is one of the chief reasons why "few organisations adopt systems thinking"

(Russell L. Ackoff), in spite of the tremendous amount of intellectual capital that has been invested into systems thinking and in spite of the demonstrable merits of that approach.

While recognising the merits of modelling and rigorous representation, the systems intelligence approach does not want to fall into such a trap of modelling. Even more important than to learn to model processes that work, is to generate processes that work. For the systems intelligence perspective, action is primary. Improvement is primary. It takes seriously the fact that objective knowledge is often not forthcoming, and yet people may need to act. Indeed, people may act intelligently even in the absence of objective knowledge and without adequate representations of the holistic structures with respect of which the action takes place. Clearly such action is evolutionarily fundamental, constantly part of the human engagement with her environment, and should be taken seriously by students of action, leadership and improvement. This is what the systems intelligence approach aims to accomplish.

As a result, the systems intelligence approach amounts to an extension of systems thinking and other objectivistic modes of thinking. It recognises the significance of the sensitivities-based, "soft", subjectivistic and first-person -related aspects of the human endowment as fundamental to the human systemic engagement with her environment. This is the realm of life most extensively studied in humanities, in social sciences and in the arts.

While rationalistic traditions of thought have often overlooked the significance of the realm of subjective sensibilities, the systems intelligence approach seeks to make use of them. Systems intelligence in humans is a from-within drive that relates the subject to objectivities but does not limit itself to what is objectively available only. It amounts to an art of life that combines the subjective and the objective in real time and in the midst of evolving processes and actions. When facing the gulf that separates the natural science and mathematics inspired objectivism from the humanities and the arts inspired approaches to human affairs, systems intelligence chooses integrity.

Engagement in the world is an evolutionary necessity. Seeking out processes that work is an evolutionary must. Giving descriptions for all that is not. But increasingly academic thinking has focused upon descriptions and upon the analysis of the models that have emerged as such descriptions. This objectivistic bias has led scholars to bypass many of those human capabilities we wish to highlight through the lens of systems intelligence.

## Selected Readings

SAARINEN, ESA, AND RAIMO P. HÄMÄLÄINEN. (2004). Systems intelligence: Connecting engineering thinking with human sensitivity. In Systems intelligence: Discovering a hidden competence in human action and organisational life, eds. Raimo P. Hämäläinen and Esa Saarinen: pp. 9–38. Espoo: Helsinki University of Technology, Systems Analysis Laboratory Rearch Reports A88. Available at www.systemsintelligence.hut.fi. Also in Hämäläinen and Saarinen (2007a): pp. 51–77.

- HÄMÄLÄINEN, RAIMO P., AND ESA SAARINEN. (2006). Systems intelligence: A key competence in human action and organizational life. *Reflections: The SoL Journal*, vol. 7 (no. 4): pp. 191–201. Also in Hämäläinen and Saarinen (2007a): pp. 39–50.
- HÄMÄLÄINEN, RAIMO P., AND ESA SAARINEN, eds. (2007a). Systems intelligence in leadership and in everyday life. Espoo: Helsinki University of Technology, Systems Analysis Laboratory. Available at www.systemsintelligence.hut.fi.
- HÄMÄLÄINEN, RAIMO P., AND ESA SAARINEN. (2007b). Systems intelligent leadership. In Hämäläinen and Saarinen (2007a): pp. 3–38.
- HÄMÄLÄINEN, RAIMO P., AND ESA SAARINEN. (2007c). The way forward with systems intelligence. In Hämäläinen and Saarinen (2007a): pp. 295–305.
- HÄMÄLÄINEN, RAIMO P., AND ESA SAARINEN. (Forthcoming). Systems intelligence The way forward? A note on Ackoff's 'Why few organizations adopt systems thinking'. To appear in *Systems Research and Behavioral Science*.
- Luoma, Jukka, Raimo P. Hämäläinen, and Esa Saarinen. (Forthcoming). Perspectives on team dynamics: Meta learning and systems intelligence. To appear in *Systems Research and Behavioral Science*.