

# ISSS Integrated Systemic Inquiry Primer Project (ISIPP)

## A TASTE OF SYSTEMICS

Edited by Tom Mandel

### *DEVELOPING A SYSTEMIC VIEW*

---

**By Bela Banathy**

The systems view is a certain way of looking at ourselves, at the environments we live in, at the systems that surround us, and at those we are part of, in terms of our interactions.

But having a description of systems inquiry, or even an understanding of systems concepts and principles and types of systems, does not YET mean having a systems view. The systems view is a way of thinking, and acting. it is a world view we can possess. And there are ways by which the systems view can be developed.

"The systems view is a way of thinking and acting."

By observing various types of systems and studying their behavior, we can recognize characteristics that are common to all systems. Once we have identified and described a set of concepts that are common to the systems, and observed and discovered among some of them certain relationships, we can construct from them GENERAL SYSTEMS PRINCIPLES. Thus, a system principle emerges from an interaction/integration of related concepts. Next, we are in the position to look for relationships among principles and organize related principles into certain conceptual schemes we call SYSTEMS MODELS. This process of starting from observation and arriving at the construction of systems models constitutes the FIRST STAGE of developing a systems view.

Models are useful as frames of reference that we can use to examine and talk about the system the model represents, We work with models all the time. When we exchange ideas about something, we usually do so by using conceptual models. In a discourse, it is helpful to have a common model, or a common frame of reference, so that we have some assurance that everybody is talking about the same thing. In what follows, I map the journey for the use of the three models and for acquisition of the systems view.

The term "model," as it is used here, is a descriptive/abstract representation used in two senses. First in a "general" sense. models are mental images of general systems concepts and principles. organized into a scheme. Second in a "specific" sense, the "general" concepts and principles will transform to represent a mental image, a description of a

perceived real-world social system. In this sense, the models become the products of our own representation of a selected specific system. Such a model also can be mental image, a normative description, a representation of a future system that we create by design.

THE ORGANIZED DESCRIPTION OF AN EXISTING OR A DESIGNED FUTURE SYSTEM IS THE MODEL OF THAT SYSTEM. Concepts and principles that are manifested in social systems can be organized in general models of social systems. These models then can be transformed into the context of specific social systems. In systems research we develop models that represent one or more classes of systems, The more classes of systems a model represents, the more general the model is. Our present examination focuses on a single class of systems -- social systems or human activity systems -- once we develop a model -- which is a generalization of this class -- we can transform this general model of social systems into a model of a specific systems of our choice..

The SECOND STAGE is the process of INTERNALIZATION/APPLICATION: the integration of those concepts, principles, and models into our own thinking AND their application in real-life contexts -- in systems and situations of interest to us. This process of internalization and application constitutes our journey toward the development of a systems view. The next stage is actual application (e.g. as described in my Systems View of Education book) When we talk about systems applications we are considering the application of systems approaches/models/methodologies/methods/tools in a specific FUNCTIONAL CONTEXT, E.G., a social system INVOLVES the following: (1) select the approach/model/methodology/methods/tools that are appropriate to: (2) the type of systems in consideration: rigidly controlled, deterministic, purposive, heuristic, purpose seeking AND (3) the specific domain of inquiry: description (of the system), analysis, design, development, management.

A description of the two stages follows.

#### STAGE ONE: CREATING A GENERAL SYSTEMS MODEL

In my earlier work, I constructed three systems models; a systems-environment model, a functions/structure model, and a process model; all of which are applicable to understanding and working with social systems. I prefer to call these models "lenses." As I use the systems-environment lens, I can see and understand relational arrangements and dynamics between the system and its context. The functions/structure lens helps me to see the system at a given moment in time. I understand what it is; it projects a snapshot of the system. The third lens shows how motion: the behavior of the system through time. None of these lenses give me a whole picture of the system, Only as I integrate the three images can I capture a comprehensive view -- the wholeness of the system. The process of using the lenses and describing a system provides the first experience of internalization and application of the systems view.

STAGE TWO: TRANSFORMING THE GENERAL MODEL INTO A SPECIFIC CONTEXT At this stage we transform the general models into the context to a specific

social systems. This transformation enables us to portray, characterize and use social/societal entities and systems and work with them relatively in four complementary domains of organizational inquiry. These process domains are:

- \* The ANALYSIS and DESCRIPTION of social systems, by the application of the three models presented above (The systems environment, the functions and the process models)
- \* SYSTEMS DESIGN, conducting design inquiry with the use of design models, methods, and tools appropriate to social systems and the specific type of system chosen.
- \* IMPLEMENTATION of the design by SYSTEMS DEVELOPMENT and the INSTITUTIONALIZATION of the new system.
- \* SYSTEMS MANAGEMENT, the management of systems operations, and the management of change.

and based on findings of this stage, revisit Stage One and revise it if indicated. Then, move to Stage Two again, learn from the application and proceed in a spiralic fashion. The spiral never ends...The spiral is the method of the continuing development of systems inquiry.