Chapter 40

Critical Systems Thinking and Information Technology: Some Summary Reflections, Doubts, and Hopes through Critical Thinking Critically Considered, and Through Hypersystems

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ABSTRACT

This chapter presents a summary of some features of soft systems methodology—SSM, and of critical systems thinking—CST as they have been experienced from the point of view of the field of applications of information technology. It highlights the manner in which CST completes SSM in the context of the design of computer support in the form of HYPERSYSTEMS, and evidences some problematic aspects of the two approaches which push the practitioner into philosophical issues. One concluding hypothesis is that further developments of systems practice must be sought at the interface between formal science, political ethics, analytic psychology, and religious thought. For tutorial purposes, a great amount of literature is related to these issues.

SOFT SYSTEMS METHODOLOGY

SSM has been comprehensively presented in an extensive work (Checkland, 1981) but the following will be edited out of a more recent, and therefore presumably more developed, presentation of SSM that is related to informations systems (Checkland, 1988). It will sometimes be completed and followed by my comments.

Information systems can be seen as an organized attempt at meaning—creation—from—data by a social institution. The creation of meaning is seen as requiring a “semantic information theory” that may be grounded on the welcomed theory of “speech acts” in modern philosophy. An SSM idea that is considered crucial is that a set of activities be linked as to form a purposeful whole that could itself be regarded as a kind of system, a “human activity system”. Such systems can be adequately clearly described only in relation to a particular world view, or Weltanschauung. Methods—models—systems that are relevant to debate real-world activity are developed (in a logic—driven stream of analysis), and compared with real-world ac-
tion in a problem situation, in order to structure
a debate about change. The problem situation
itself is simultaneously explored (in a social
stream of analysis) as a culture, with social and
political characteristics. It feeds both the former
choice (design) of relevant systems and the de-
bate about change among participants/designers/
users/end users/(ever-changing)-organizational
members. This view of social reality is that of
an ever changing outcome of a social process in
which human beings continually negotiate and
renegotiate, and so construct with others their
perceptions and interpretations of the world and
the rules for coping with it, rules that are never
fixed once for all.

Future computer projects need to be comple-
mented with such a technical—social—political
process for continuous thinking and rethinking
of organizations tasks and processes [activities],
together with the rethinking of the enabling
information flows. When iterations of the process
produce models which are widely agreed to be
relevant in a company [problem] situation, then
such consensus activity models can be converted
into information flow models, and the more tra-
ditional methods of information system design
can be initiated. Lately there have been attempts,
ideas and projects to design multimedia computer
support of similar processes and their iterations
(Forsgren, 1989; Lundquist and Huston, 1990).
The activity models can be transformed into
traditional information flow models (Checkland,
1970), as known in the field of information sys-
tems analysis (Langefors and Sundgren, 1975),
by asking of each activity: (a) what information
is required in principle to do this activity, in what
form, with what frequency, from what source?,
and (b) what information is generated by doing
the activity? Even if prototyping as related to
continuously learning systems apparently makes
the idea of stable information flows obsolete, it is
still true that some provisionally stable structure
of the information system must be available in order
to be periodically revised. Co-constructiveness
requires constructiveness. Learning systems are in
the best case expected to increase the frequency of
revisions or updatings, or then, to create structured
databases of continuous opinion polls.

SSM CRITICALLY REVISITED

It is now time to reflect on the SSM approach
summarized above. Lately there has been an
articulated criticism of SSM at the interface
with critical systems thinking. It will be covered
later but for the time being we can note a kind of
summary of this criticism that was presented in
a recent paper (Gregory, 1989). It is stated there
that the soft systems approaches were unable to
deal with the fundamentally conflictual nature
of social systems. Influential students of the
method of social science in the context of analy-
sis of radical, antiorganization approaches noted
that the home of the twentieth century’s critical
theorists was the so called Frankfurt school. As
alternatives or complements to SSM are in fact
mentioned the “critical systems heuristics” that is
directed at practical action of a critically norma-
tive nature, and the “theory of communicative
competence” that provides a clear and pure theory
of social interaction and of the means of societal
reproduction, a rational reconstruction of the
formal conditions required for communicative
competence, i.e. the ideal speech situation. It is
noted that the term “critique” has a long history.
It was first used to describe the art of informed
judgement appropriate to the study of ancient texts,
whether the Classics or the Bible. The appeal to
critique gradually displaced the criterion of truth,
from revelation towards clear and rational, or
critical, thought. The critical approach proposed
by the critical heuristics of social planning is seen
to remediate the failure of the critical theory of
communicative competence in bridging the gap
between theoretical justification and political or
strategic action. It seeks to bridge this gap between
theory and praxis by introducing the notion that