■ *Research Paper*

A Dialogue on the Future of ISSS: Team Syntegrity Sessions at the Crete Conference

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One of the sections of the the 47th Conference of the International Society for the System Sciences (ISSS) in Crete was dedicated to the methodology and applications of Team Syntegrity (TS). TS is a methodology to make the discourse of large groups effective, which is particularly useful in the context of conversations about the future. This contribution is centred on a Team Syntegrity event in which members of the conference initiated a dialogue on the future of ISSS. The paper provides a report and a reflection about that event, and an outlook on how to embark on an ongoing discourse about that vital concern of the Society. Copyright © 2004 John Wiley & Sons, Ltd.

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CONTEXT

The 47th Conference of the International Society for the System Sciences (ISSS) in Crete was guided by the idea of 'using systems thinking to construct agoras of the global village' (subtitle of the conference) with respect to the challenges facing humanity. A special section was established for the community, which has worked on the Team Syntegrity methodology and its application, to make a contribution to the conference. That section was directed by the two authors.

Two paper sessions with papers from five different countries relating to both the conceptual aspects of TS methodology and applications in organizational and political settings were held. Early on, a special time and space were reserved for the realization of a 'mini-event', in which participants of the conference interested in TS should be able to experience how a syntegegration actually works and what it can achieve. It was clear from the outset that such an experiment would only make sense if it were realized around a general theme of interest to those who participated. Given these conditions the idea emerged to focus the event on the future of ISSS. This was a real issue, and it was of interest to anyone who attended the conference. Furthermore it is a

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subject typical of the issues normally addressed in syntegegration events. It is broad, complex, and it could not be tackled meaningfully or competently by any single person. Equally, any one of the hard systems methods would not be adequate for dealing properly with the issue under study.

WHAT TEAM SYNTEGRITY IS ABOUT

Team Syntegrity is a future-oriented approach to the design of democratic management invented by Stafford Beer (1994). As an introduction on the topic is part of Schwaninger's contribution to this edition, we can be brief and focus on how TS works.

Similar to the purpose of other large group concepts, it provides an organizational model for large-size teams to interact productively. One major difference is the protocol, which provides a process organization based on the structure of polyhedra. Two core aspects of the model are reflected in the name. 'Syntegrity' derives from 'synergy'—the surplus resulting from cooperation, and 'Tensile Integrity', which is about the strength of a structure derived from tension as opposed to compression. The group which operates in this framework is called an 'Info-set',—a set of individuals who share a concern as well as the competence and motivation to do something about it.

TS is particularly useful when dealing with complex, ill-defined situations or issues. The methodology is mostly applied to major organizational challenges such as strategy or organization development. The case reported here—future of ISSS—is quite a typical one.

A process of syntegegration has the following phases (this is a simplified representation):

- (1) *Opening*. The syntegegration is dedicated to a broad topic, which is explicated by an Opening Question. For example, in syntegegrations held with students at the University of St Gallen, the question was: 'How should management education be designed in the future?'
- (2) *Generation of the agenda* ('*Problem Jostle*'). Each participant hands in statements that are important to him or her (Statements of Importance). These are discussed and com-

bined (Aggregated Statements of Importance). Then, in a process of successive synthesis and prioritizing, the agenda for the actual work on the general topic or problem is generated (Hexadic Reduction). This is finally expressed in a number of topics (Consolidated Statements of Importance)—12 in the case of an icosahedral structure (typically 18–36 participants), six if an octahedron is used (typically 12–18 participants).

- (3) *Assignment to groups* ('*Topic Auction*'). Each member of the Info-set ranks all 12 topics in an order of preference. Then, memberships as players in two teams are attributed to the individuals, each one of them being represented by one edge linking the vertices of the polyhedron (i.e. topics). In addition, two roles of team critics are assigned.
- (4) *Working on the topic* ('*Outcome Resolve*'). The individual teams (consisting of five (four) players and five (two) critics each for the icosahedron and octahedron respectively) discuss their respective topics. Each team meets several times (usually in three iterations) and writes up a summary of its results to share with the whole Info-set. The fact that the same issue with its different but interconnected aspects is continually and iteratively processed by the same set of people, who gather in alternating compositions (topic teams), produces strong reverberation. This leads to a self-organizing process with high levels of knowledge integration, as empirical studies have shown (for detailed references, see Schwaninger, 2003).
- (5) *Finalization*. The teams present their conclusions in a final plenary session. Planning for subsequent action or other coordinative measures may be added as necessary.

PURPOSE OF THE EVENT

This meeting had two purposes: to provide an informal demonstration of the Team Syntegrity process and to give conference participants an opportunity to share their perspectives on the future of the International Society for Systems Sciences.

Consequently, the Opening Question was formulated as follows:

'How do you think the ISSS should contribute to the world over the next several years?'

The context of the conference as a whole with its strong future orientation on the one hand, and the relevance of this Opening Question to the conference participants on the other, appeared to us as an ideal setting for a demonstration. We also hoped that some ideas would emerge even though the session was conceived as a mini-syntegration rather than a full event.

SET-UP, PARTICIPANTS AND SCHEDULE

A large conference room at the Kreta Maris hotel in Hersonissos was made available for running the event. We set it up with the necessary infrastructure, a large U-form of tables for the plenary and two tables for the teamwork during the Outcome Resolve, with flip-charts and pens. One wall of the room was used for posting Statements of Importance and clustering them during the Problem Jostle, with lots of space for participants to circulate in front of it. Also, the room provided enough area for little groups to gather spontaneously for lateral communication.

However, we did not know how many people would join in until the session started. The sign-up sheets at the front desk of the large conference had hardly been used. What actually happened was quite favourable: 12 people turned up and participated in the workshop. This allowed us to use the octahedral form for organizing the topics and the parallel sessions in which they were discussed by the teams (six vertices and 12 struts making up a double pyramid). Another person joined as an observer and took the place of a participant who had to leave early. The participants in the sessions included a majority (seven) who were long-time members of ISSS, familiar with the organization and some more recent associates or new faces (six).¹ The heterogeneity

of the origins of the participants was quite remarkable.² As far as the professional background is concerned, most participants have an academic affiliation, with a substantial commitment to practical applications. The spectrum of disciplines in which the participants are occupied—even though they share an inter- or transdisciplinary approach—ranges from biochemistry, information technology, engineering and statistics to health care, management, psychology, history, philosophy and the social sciences. One of the authors (A.L.) was the facilitator of the event, while the other was part of the Infoset.

The total time available was 3 hours. No more than 180 minutes to run through a whole syntegration process is very little. To achieve anything we had to keep a tight time budget, and we were committed to stick to it. The planned schedule was as follows:

- 5.30–5.45 Introduction
- 5.45–16.30 Problem Jostle
- 6.30–6.50 Topic Auction
- 6.50–7.50 Outcome Resolve—First Iteration (three pairs of sessions, 20 minutes each)
- 7.50–8.15 Outcome Resolve—Second Iteration (three pairs of sessions, 5 minutes each)
- 8.15–8.30 Wrap-up

We managed to adhere closely to this schedule during a most intensive sequence of interactions and discussions.

THE PROCESS

The process followed the typical protocol of a syntegration, as outlined above.

Opening

It began with participants being confronted with the Opening Question (see above) by the facilitator, who briefly gave an outline of the process.

¹The members of the Infoset were: Bermeo, José; Brier, Soren; Coellen, Arne; Gao, Fei; Hammond, Debora; Mulhaney, Ann; Pérez Ríos, José; Regonini, Claudia; Reinecke, Carolus; Schwaninger, Markus; Umpleby, Stuart; Wilby, Jennifer; Zohar, Asaf.

²Origins of Infoset members: USA (3), UK (2), Austria and Switzerland (1), Canada (1), Colombia (1), Denmark (1), Italy (1), Japan and China (1), South Africa (1), Spain (1). The facilitator is from USA and Canada. Note: Members of the Infoset for whom two countries of origin were enumerated are those who either have two nationalities or work in a country different from their nationality.

Figure 1. Topics—Team Syntegrity Workshop, Crete, 8 July 2003

Thereupon, the members of the Infoset embarked on writing their individual 'Statements of Importance' on sticky notes and putting them up on the wall. There were 40 posted. (Apologies to anyone whose statement fell off during the process and was lost.)

Problem Jostle and Topic Auction

In the ensuing self-organizing 'information market', the statements were clustered in and developed into seven topics. These were consolidated into six and assigned colours for team meetings.

The following topics were formed (Figure 1):

- The Identity and Mission of the ISSS—Red Team
- Promoting Systems Science and the ISSS—White Team
- Social Purpose of the ISSS—Light Blue Team
- Using Technology to Enable the ISSS—Black Team
- Special Integration Groups (SIG's)—Orange Team
- Membership and Community—Brown Team

The Topic Auction, in which the different roles were assigned to the participants, was quick and smooth. The members volunteered for the topics in which they had competence or interest.

However, each one of them demonstrated readiness to work on any one of the six subjects as a player or critic, if there was a need. This way, no time-consuming discussions or negotiations about role assignments emerged.³

Outcome Resolve

In each group, two iterations of meetings were held: a meeting of 20 minutes for the first iteration and a meeting of 5 minutes for the second iteration. Each person had an opportunity to play two roles as a team player (with primary responsibility for the topic discussion) and one role as a critic (thereby adding another, one step removed perspective). In other words, each team discussion was held by four players and two critics around a table. Each time, two team sessions were held in parallel.

The second iteration was primarily for the teams to revisit their topics in the light of the two meetings they had attended in other groups. Normally there would be three iterations and they would be of nearly equal duration, which would be much longer (usually between 75 and 120 minutes).

³In larger syntegrations, computer programs are used to support the assignment of the roles in accordance with participants' preferences.

Wrap-Up

The general feeling in the group expressed in the brief final plenary was one of surprise about the synergy that had evolved across the Infoset and about the manifold outcomes produced. The participants and the moderator agreed about the need for further discussion of the issues at hand. They also found that the results generated in the workshop were a good starting point, and even that some of the material generated might be very useful.

OUTCOMES

In this section, we shall only draw a resumé of the outcomes from each team, with some parsimonious comments from our side. Typically for a syntegeation event, all the partial results elaborated in the course of the process were successively documented and collected. This is the 'raw material' for our summary.⁴ We are also attaching the List of the Individual Statements of Importance, already grouped according to the six topics, in the Appendix. The statements themselves are relatively spontaneous utterances of the concerns of the participants related to the Opening Question. In the course of an essentially self-organized discussion (taking place within a structural framework) they were successively enriched, amended and patterned into Aggregated and Final Statements. Even so, reading the initial Statements of Importance conveys a rich picture of the concerns expressed.

The complete minutes of the event, which include both the list of Individual Statements of Importance and all the transcriptions of the groupwork outcomes—can be obtained from the ISSS secretary or from any one of the authors.

What follows are summaries of the Final Statements in groupwise order.

The Identity and Mission of the ISSS (Red Team)

The Red Team emphasizes that there is a need to revisit or, more precisely, to reflect and clarify the identity and mission of ISSS. Since the change of name in 1988 tensions between a quest for more research orientation versus a tendency for more application have arisen. Yet, the group discerns 'a lack of discussion about [the] direction of [the society]'. In this context, questions were raised about what the principles of the society are, and if the intent of the founders is alive. A tension between research and practice orientations is diagnosed: How can the different interests in research and practice or service be channelled so that they strengthen each other rather than become competitive or parallel tracks in the Society that seldom meet?

The diversity of perspectives among members is perceived to be a potential asset. However, in terms of cohesion and collective knowledge, the society 'has not evolved in the sense of accretion and accumulation', and many members of the natural sciences have left. In sum, the group states that its 'motto "Science for Humanity" is not matched by Requisite Variety'. One of the contradictions is that 'ISSS projects itself onto the world, but does not reflect all stakeholders'. One polarity identified is the high influence of and emphasis on the president, while many SIG (Special Integration Group) activities have deteriorated, accompanied by a general 'seepage of energy'.

The group mainly proposes that:

- 'ISSS should be a platform to share knowledge and to change ideas (for scientists and reflective practitioners)'.
- 'ISSS conferences should attract people from different fields who can extend their horizon, finding something *unique* to ISSS'.
- SIGs should be reinforced, to become more active and pursue 'projects of continuity'.
- 'Individual Personal Commitment as core value ... [should] be reinvigorated'.
- In order 'to gain Requisite Variety, ISSS should organize itself as a Viable System', at the levels of the Society and the SIGs (Figure 2 is part of the minutes).

⁴Word-by-word quotations from the minutes of the groupwork are set in quotation marks.

Figure 2. Recursion Levels of concern

Promoting Systems Science and the ISSS (White Team)

The White Team advocates 'promoting understanding of what systems science is—recognizing ISSS as a centre of expertise'. It asks the question how to realize projects around 'real-world problems' and how to raise awareness of and interest in systems ideas.

ISSS and the systems sciences should be promoted with an awareness of cultural contexts and barriers within fields or countries. According to the group, in Europe there appears to be more interest in interdisciplinary approaches than in the United States:

Recommendations of the team were as follows:

- Build bridges with other organizations in different countries.
- Explore the European Union's requirement of systems perspective in research projects.
- Develop a Systems Science Accrediting Organization (to prevent systems science departments and courses from being subject to accreditation reviews by accrediting organizations from other disciplines having different criteria, etc.).

Social Purpose of the ISSS (Light Blue Team)

The Social Mission of the ISSS, for this group, refers to three aspects: 'theory, practice, interaction'.

The Light Blue Team pleads for the ISSS to 'make a contribution to solving/resolving real-world issues or problems by understanding

them through research and trans-disciplinary actions'. The emphasis here is on research, which need not take place in the ivory tower, but can take place 'in applications—see Mode II (Michael Gibbons, ACU⁵)'.

What is apparently at stake here is the balance of the internal coherence of ISSS with the society's social message. One may add also that a reframing, in systemic terms, of many real-world problems could even lead to their dissolution, i.e. they would disappear (for the concept of 'dissolving' rather than 'solving' problems, and pertinent practical examples, see Russ Ackoff's, 1999, work).

Using Technology to Enable the ISSS (Black Team)

The Black Team wishes to use technology—guided by systems theory—to support the viability of ISSS. Members should have fast and easy access to a shared communication platform, structured recursively. Keeping technology updated and accessible given volunteers' limited time and enabling members to know 'who does what' appears to be crucial.

Suggestions of the group:

- Demonstrate 'best practices' in the application of systems thinking, ideas and practice.
- Distribute ideas—revitalize yearbook.
- Easy and fast access to the society, e.g. a directory of members, their activities, fields of interest and competence.
- ISSS should become a role model of a 'learning organization'.
- Application of recursion principle to groups, e.g. through www.systemsnet.org.⁶

⁵ Association of Commonwealth Universities. Michael Gibbons and his collaborators describe an inexorable and irreversible shift in the views of the world and the work of teachers and researchers—from 'Mode I' knowledge generation (pure, disciplinary, homogeneous, expert-led, supply-driven, hierarchical, peer-reviewed, and almost exclusively university-based) to 'Mode II' (applied, problem-centred, transdisciplinary, heterogeneous, hybrid, demand-driven, entrepreneurial, network-embedded etc.) (Gibbons *et al.*, 1994; Watson, 2003).

⁶ This is a web application, which Prof. José Pérez Ríos, University of Valladolid, Spain, makes available to all ISSS and its members, as he offered in the final plenary of the conference.

- to facilitate (web-supported) organizational learning throughout the year.
- Provide continuity via ongoing projects involving SIGs.
- Have opening sessions at the ISSS conferences, in which SIG's report on their activities.
- Realize more joint SIG sessions.
- 'Move into *action*: present (the results of) this syntegegration to members and the board'.

Special Integration Groups—SIGs (Orange Team)

The matter of concern of the Orange Team is to review the approach to Special Integration Groups and especially to 'revitalize SIGs over time'. The group calls for 'greater commitment from leaders *and* members of SIGs' and for SIGs to do a better job at explaining their core interests and organization.

It also advocates balancing evolution and growth of new groups with retention and enabling of existing groups. SIGs' options should be kept open, allowing for some to move on to an 'inactive' list when they have not organized anything for a certain period of time. SIGs no longer active should be culled at some point.

The Orange Team's proposal is for 'a customized SIG revitalization program' embracing concrete steps to be taken to, for example:

- revitalize membership;
- improve quality of discussion;
- make SIGs a greater source of feedback and comments on papers.

Membership and Community (Brown Team)

The Brown Team focused on the issue of attracting new members and retaining the existing ones. The discussion revolved around two questions: finding new ways of inviting participation, and how to reinvolve natural sciences.

Suggestions of the team were as follows:

- building community;
- more dynamic and ongoing interaction and unity (role model: Toronto Conference, 2000);

- at conferences, plenary addresses from each group/SIG—also closing comments;
- more continuity, bringing in colleagues and students, e.g. by presenting collaborative work, or linking PhD candidates to the ideas inherent in ISSS;
- clearer focus regarding mission of society;
- partnering among members;
- alliances with other organizations.

Overarching Issues

Among the substantial list of issues discussed, one appears of primordial importance: the need for clarification and reflection with regard to the identity and orientation of ISSS. Related subjects such as community building, the Society's organization design, its knowledge management and the technology used were also raised and pertinent recommendations elaborated.

Several of the issues—in cybernetic terms—reflect homeostats or aspects which call for a balance or a path of the centre. This applies especially to the polarity of diversity and focus as well as the tension between theoretical and practical orientation. In our view it should be a matter of study how these opposites may be framed as complementary and guided towards more synergies.

Finally, a highly general issue addressed is the need to reinject negative entropy—at all levels: the Society as a whole, SIGs and individual members. As the recommendations clearly indicate, the sources of negentropy must be of both kinds: internal (e.g., leadership and personal commitment of members, organization of SIGs, enabling technology) and external (e.g., new members, allies, sponsors).

REFLECTION AND OUTLOOK

This syntegegration resulted in many ideas generated in a very short time period. A lot of reverberations were going on, i.e. the participants obviously made important connections between the different topics. This was audible in the discussions of the workshop and it can be seen in the outcomes: the different groups addressed the

same issues, from different angles. Many of them commented that they had learnt in the session, and probably produced some insights of value. To paraphrase this, they had at least enriched their personal models related to ISSS, its situation and perspective for the future, but also contributed to the shared mental model of ISSS as a whole.

Yet, the meeting was doubtlessly subject to some limitations. First of all, the time budget was very tight. While the usual duration of a synte-gration is somewhere between two and four days, here we went through the whole process in 3 hours. As a consequence the ideas generated could not be discussed in sufficient depth. Also, more time between the iterations for lateral discussions and reflections at the individual and small group levels would have been an advantage. The 12 participants were a good sample—all of them interested in contributing to the shared issue, and the majority of them with a substantial experience of ISSS. However, they did not represent the full range of opinions and interests present in the Society, and its hundreds of members. Also, one should remember that many insiders of the Society who could have made important contributions simply were unable to attend.

Despite these limitations, there are at least three lines of argument which speak for taking the results of this synte-gration seriously. First of all, any *agora* in which the future is discussed always generates incomplete and in a sense provisional results: everything is partial and nothing is definite.⁷ Second, the results are quite indicative for the general discussion about the future of ISSS which has emerged in the Society. Some of them were expounded by these two authors, in the final plenary of the conference, where they were received with general approval of the large audience. This is no surprise, as these outcomes were generated by a group of highly responsible people, some of them long-standing members, deeply knowledgeable about the long-range

development of ISSS, most of them with substantial experience in the field, and several who are authorities in the Systems Movement. Third, the Black Team proposed to present the results of this synte-gration to members and the board of ISSS.

To draw a brief conclusion: we believe that this was a good start towards a more intensive discourse about the challenges faced by ISSS and about its orientation and long-term perspective. We trust that this view will be shared by most members of our Society. Furthermore, we propose that ISSS, under the leadership of its board, embark on a systematic and continuing dialogue in which the issues raised here are pursued further.

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⁷In this regard, an answer given by Socrates, in a similar context, is of interest: 'What they can say—I cannot judge it. Who are "they"? What everyone says is not important, because all of them have not thought carefully.'

APPENDIX: LIST OF INDIVIDUAL STATEMENTS OF IMPORTANCE GROUPED BY TOPIC

Red Team (Identity and Mission of ISSS) ($n = 6$)

- Clarify mission
- Bring out more discussion and implement founding GST principles of society
- A stronger dialogue between policy makers and policy takers
- Identity of ISSS: Platform for a new kind of science (integrative, trans-disciplinary, holistic)
- Identity of ISSS: Platform for the development of the Systems Approach to Scientific Inquiry
- Identity of ISSS: Platform for a science at the Service of Humanity

White Team (Promote Systems Science and ISSS) ($n = 4$)

- Stimulate the understanding of the complexity of society to aid = direction to it
- Understanding systems science
- How to promote systems ideas and methodologies
- Act as agent for the understanding of what systems science is (virtues and *limitations*)

Black (Technology) ($n = 5$)

- Communication platform
- Redesign web site for more timely information and member interconnections
- Reinstitute and sustain its annual yearbook
- Develop new approaches to market ISSS
- ISSS must create a permanent space for continuous communication among its members

Light Blue (Social mission) ($n = 7$)

- Become community of reflective practice
- Future of ISSS on empowering people to ask the right questions about the global community and demanding answers

- ISSS should make visible what problems (it) helped to solve in the rest of society
- Demonstrate practical relevance of sound theories
- Encourage more work on social advocacy issues
- Conduct research on the contributions of group facilitation methods
- ISSS can make use of systems theory to help itself to survive, e.g. Viable Systems Model

Orange (SIGs) ($n = 5$)

- Encourage SIGs to work together in joint sessions
- Revitalize and draw more on its SIGs
- Abolish formal groupings of SIGs
- Find ways to link various SIGs—i.e. reports at end of conference
- Sustain the theory/practice integration going on in the workshop type sessions

Brown (Membership) ($n = 8$)

- Actively recruit/invite participation from other groups
- Increase membership
- Bring more voices to ISSS conversations
- (Re)attract physical and natural sciences
- Encourage new members to contribute
- Seek ways to facilitate dialogue in regional contexts
- Try to be 'non-scary'
- Safe space for new ideas—even if they aren't traditional 'systems' ideas

Brown (Build Community) ($n = 5$)

- Improve community and sharing of experiences
- Link like-minded individuals together
- Become less dominated by the few and more democratized by the many
- Hold meetings of academics, community activists and development funders, also US and UN military and 'nation builders'
- Tell more *stories* about real-life applications and less about '*methodology*'