meta-topics. As they do so, each participant could be given a strictly allotted time (say two to five minutes) to explain the rationale behind their addition. Responses to the previous participant's addition/explanation cannot be expressed in the form of objections, questions, or monologues but only though a further elaboration of the entailment structure with accompanying rationale. The group can cycle through this process for as many iterations as are considered desirable or productive by a facilitator or by consensus. In this manner, a diverse group of participants can assemble a visually tangible "universe of discourse" in which their own personal, philosophical, and/or disciplinary perspectives can literally bump up against those of the others in the group in ways that allow them to illustrate surprising connections, co-exist in productive tension, and all points in between. For instance, I can imagine a scenario in which Participant A unzips a topic in one way, Participant B unzips the same topic in a manner that she is convinced is absolutely incommensurable with A's offer, and Participant C embeds them both in a larger category that offers some terrain over which A and B could go, perhaps over dinner afterwards, to continue to probe the differences and overlaps between them in ways that could enrich them both.

« 6 » As mentioned above, fully articulated CT, as well as entailment meshes themselves, offer layers of analytical complexity well beyond what has been outlined here. The two fundamental activities of embedding and unzipping are offered, in this context, as enabling constraints designed to expedite fruitful academic exchange of the sort that Richards desires without requiring conference participants to have a deep background in CT. I believe I share a similar desire to that of Richards and hope that this offer may make some contribution in this direction.

Tom Scholte is an actor/director/ writer for theatre and film whose work has been seen at such film festivals as Sundance, TIFF, Rotterdam, and the Berlinale. His research focuses on cybernetics in the Stanislavski System of Acting and narrative drama as a modeling facility for the study of complex systems.

Nurturing Conversation through Innovative Conference Design

Paul C. Schroeder
Independent Scholar, USA
pauls/at/commoncoordinates.com

> Upshot - Fostering conversation is shown to be a central element in a cybernetic approach to meeting design. A history of successful meetings on cybernetic themes suggests how designing for conversation may also be applied to academic conferences generally.

« 1 » As a longtime member of the American Society for Cybernetics (ASC), I have appreciated Larry Richards’s commitment to fostering participation and innovation in ASC meetings. His target article has given me an opportunity to reflect on these meetings and their unique satisfactions. My response intends to support his desire to introduce some of these qualities into academic meetings and life generally, and to bring his perspective to bear on the future meetings and organizational structures of the ASC itself.

« 2 » I find myself responding to Richards’s article as if we are now at a conference together, joining a conversation. I experience the warmth of greeting old friends and new, and the openness to ideas that I may not have encountered before. This themed journal issue is a sort of academic conference, especially as it includes responses to the centerpiece articles. As a former librarian, I am inclined to see bibliographies as gatherings, assembled by authors. As a person fascinated by the social network of cybernetics, I read Richards’s article beginning with its reference list, then worked backward through his conclusion before starting at the proper beginning.

« 3 » Richards has thoughtfully outlined a set of criteria for what he considers to be a successful academic meeting. He bases these on over 30 years of personal experience at conferences, some of which he helped to organize. Many of the meetings he describes are in the tradition of cybernetics, particularly “second-order” cybernetics, with which he has been involved throughout his academic life.
He contrasts the unique character of these meetings with his experience of "traditional" academic meetings of a more disciplinary and professional cast, which in his view often fall short of a desired potential. His descriptions of many meetings in the cybernetics tradition illustrate how perspectives related to cybernetics have been applied in various intentional ways to the meetings themselves, in terms of the topical choices, the implied or intended outcomes, and the ways the interactions of the meetings are structured. This perspective also informs his proposals for mitigating what he sees as a tension "between advancing individual careers / celebrity and building new knowledge together" (§44) that characterizes most academic conferences.

This is the perspective from which he responds to the broader question: Can the insights that are collectively termed "second-order cybernetics" be useful for those who are planning academic conferences generally? His discussion overall is an appeal to nurture conversations, broadly conceived, as part of the expectations and planning for such meetings.

In a sense, his discussion suggests a specific application area for the meta- or trans-discipline of second-order cybernetics. Richards provides an evocative set of areas of inquiry in the cybernetic domain (§13) and characterizes this domain in terms of Heinz von Foerster’s "undecidable questions" that invite us to decide, his terms of Heinz von Foerster's "undecidability" (§13) and characterizes this domain in terms of Heinz von Foerster’s "undecidable questions" that invite us to decide, his "metaphysical postulate." As von Foerster wrote,

"There is no external necessity that forces us to answer. We are free! The complement to necessity is not chance, it is choice! We can choose who we wish to become when we have decided on an in principle undecidable question." (Foerster 2003a: 293)

This perspective informs Richards’s view of what makes for a successful conference. His desired outcomes are implicit throughout his article, and include having "a conversation that will advance or replace an idea I have, or inspire a new one," (§2) "building new knowledge together;" (§44), and leaving the meeting "intellectually stimulated and mentally/emotionally refreshed" (§30). These all can be situated within the notion of the centrality of conversation as advanced by Klaus Krippendorff. Expanding on Ludwig Wittgenstein’s metaphor of “language games,” Krippendorff suggests that conversation "well may be ongoing, a 'way of life' in which people have the courage to change their being with each other" (Krippendorff 2009: 2). Though these outcomes are far beyond the expectations of traditional academic meetings, Richards suggests that they can have a place there, helping to resolve the intrinsic tension he describes.

I would like to mention another kind of tension that arises when we contrast meetings that are constructed along cybernetic lines with traditional academic inquiry. This involves very different ideas of what Richards calls "new knowledge" (structured abstract and §44). For myself and many of a cybernetic or constructivist persuasion, knowledge resides in the cognizant human subject in social relationship, rather than as embodied in the artifacts that preoccupy the knowledge accounting systems of the academic world. An approach toward this deeper tension through a shift from knowledge-based to question-centered learning environments will be briefly mentioned below.

The idea of "conversation" is a core concept both in the cybernetics tradition and throughout Richards’s presentation of what makes for a successful conference. Fostering open but structured conversations has been a constant in cybernetics meetings, classes, and projects going back to the Macy Conferences of the 1940s and early 1950s. Conversation emerges as the heart of the "communication" facet of the communication-and-control formula of the early cyberneticians.

Conversation, however, is not just a way to help define a discipline; its significance goes beyond disciplinary concerns. Terry Winograd and Fernando Flores claimed that at the heart of social organizations are systems of "conversations and commitments" (Winograd & Flores 1986: 158). Similarly, Krippendorff, who thoroughly explored conversation in an article published in Constructivist Foundations, states that "conversation has become the starting point of my conceptualizations of being human" (Krippendorff 2009: 1). In an earlier presentation of his perspective, he asked:

"Is conversation an unattainable ideal, or maybe the luxury of a leisure class? I think it could perhaps be construed as such. But I don't think so. I think it is the ultimate reference point for being human."**

How do we open space for conversation in any social setting, including academic meetings, in any social microcosm where we somehow find ourselves committed to participate? I see Richards’s extended reflection about meetings in cybernetics as a counterpart to his presentation "A History of the History of Cybernetics: An Agenda for an Ever-Changing Present" at the 2014 ASC conference, where he offered reflections on the history of the Society itself, and on his own participation as one of several past presidents of the Society who gathered there.

The Society stands as an expression of the lineage of conversations in cybernetics going back at least 70 years. It may help our focus to remember the world that spawned the cybernetics movement in the 1940s, and that marked some of the motivations of its founders. In his introductory remarks in the first Macy Conference proceedings, of the March 1949 meeting (the sixth meeting of the series), its organizer Frank Fremont-Smith raised the question as to how far the complexity "of the computing machine type [...] potentially threatens individual decision?" He also stated,

"One can say also that the physicists have given us the ultimate weapon of hostility. Now perhaps it is important for all of us, including the physicists, and the mathematicians, to learn something about the nature of hostility." (Fremont-Smith 1950: 10)

That meeting was seminal for von Foerster. The words "circularity," "epistemology," and "responsibility" are in the title of his account of it (Foerster 1989). The themes of

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autonomy and responsibility are a continuous thread throughout his work, an autonomy based in biology with responsibility being its social consequence. In his account, von Foerster relates his experience in postwar Vienna, noting the existence and disappearance of public posters:

“What posters? Enormous photographs from within a concentration camp: the mangled, emaciated, naked corpses tossed into a pile. The caption: ‘This is your responsibility.’” (Foerster 1989: 809)

“14” The shift from “observed systems” to “observing systems” that is von Foerster’s benchmark for second-order cybernetics can be considered to be more a call for responsibility than as a novel sort of methodology. He acknowledges Gordon Pask’s two orders of analysis:

“The one in which the observer enters the system by stipulating the system’s purpose. We may call this a ‘first-order stipulation.’ In a ‘second-order stipulation’ the observer enters the system by stipulating his own purpose.” (Foerster 1979: 7)

With a “cybernetics of cybernetics,” von Foerster asserts that “the observer who enters the system shall be allowed to stipulate his own purpose: he is autonomous.” Without this, “we shall provide the excuses for those who want to transfer the responsibility for their own actions to somebody else” (ibid: 8).

“15” I have lived and worked on the fringes of the academic world, and the design of academic conferences has not been a core issue of concern for me. As an academic librarian and as an involved member of my home community, I have taken guidance and add on a few ideas. An emphasis for both: How can one design a space and structure that encourages deep conversations?

2 | With the terms “first-order stipulation” and “second-order stipulation,” von Foerster restates a distinction that Pask presented as between “tauturn” and “language oriented systems” (Pask 1970: 15). This distinction is explained by Pask in terms that are suggestive of von Foerster’s reframing, for example: “In essence, of course, the purpose or the purpose of the system is invented by the observer himself and it is stated in the observer’s metalanguage for talking about the system” (ibid: 23). Thanks to Ben Sweeting for suggesting a closer look at this source.

a solution to what he calls the “many-brain problem”:

“The so-called ‘communication channels,’ the ‘mass media’ are only one-way: they talk, but nobody can talk back. The feedback loop is missing, and hence the system is out of control. What cybernetics could supply is, of course, a universally accessible social input device.” (Foerster 1972: 5)

Working to build responsive civic institutions and promoting transparency in public process are parts of my life that are themselves based on conversations that in turn have been informed by the conversations I have experienced at ASC conferences.

“16” In addition, as a librarian, my job was in part to guide people through an iterative question-asking and answering process. In group work related to imagining the design for a digital library for marine resources, the knotty problem of coordinating specialized and common languages arose. Having questions at the center of my work has prompted me to think that diverse communities of interest could find common ground more around the questions that people share than around their competing facts and knowledge bases. This prompted the conceptual design and rationale for a “question-centered learning environment” that was a key outcome of my dissertation research (Schroeder 2003).

“17” This approach is in line with the tradition of autonomy, responsibility, and self-discovery through conversation that Richards seeks to advance in his remarks on meeting design. Among other examples, he describes the challenging ASC meeting that was structured by Team Syntegrity in 1999 ($40). This prompted me to look again at a related approach suggested by Anthony Judge. His longstanding efforts devoted to compiling and organizing the Encyclopedia of World Problems and Human Potential are grounded in part in a cybernetic world view. His suggestion of “tensegrity organizations” (Judge 1984) could help nurture the kinds of encounter that are advocated in Richards’s article. A meeting or workshop on what a tensegrity organization may be, and how this approach could support successful meetings of a non-traditional type, could be one way to advance the conversation that has been initiated here.

Paul Schroeder is a retired academic librarian who has been attracted to conversations in cybernetics since meeting Heinz von Foerster in 1967. He lives with his wife Mazine Hough in central Maine, where his current activities focus on transparency in public process and the protection of human and natural resources in his home region.

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Cybernetics, Conversation and Consensus: Designing Academic Conferences
Judith Lombardi
Independent researcher, USA
jlombardi/at/jlombardi.net

> Upshot • Richards offers a variety of second-order concepts relevant when designing academic conferences. I insist and add on a few ideas. An emphasis for both: How can one design a space and structure that encourages deep conversations?

The challenge of writing a second-order cybernetic response

“1” In his target article, Larry Richards writes about the challenges of writing for an academic journal from a second-order cybernetic perspective ($46). I feel this challenge when writing this commentary. Yes, explicit second-order cybernetic responses are rarely desired. They are difficult to understand and create, particularly when trying to write for an academic journal. The notion of objectivity gets in the way of the dynamics of observing, drawing distinctions and establishing connections. All of which seems easier (for me) when constructing a movie.

“2” Question: Does second-order cybernetics require explicit inclusion of one’s recursive self when reporting, in and out of academia? Is this dilemma a conflict, contradiction or conundrum? As Herbert Brün once said to me in 1993:

**Conflict requires a change in a system. Contradiction requires a change of a system.**

http://www.univie.ac.at/constructivism/journal/11/1/065.richards