

## DRAFT CONCEPT FOR THE DEPLOYMENT OF THE ENCYCLOPEDIA OF SYSTEMS SCIENCE AND CYBERNETICS ONLINE (ESSCO) AS THE NODE TO A CO-EVOLVING SYSTEMS KNOWLEDGE SYSTEM.

### OBJECTIVES

1. To continue the work Charles François has started with his “International Encyclopedia of Systems and Cybernetics” (Saur 2004, 2nd Ed.).
2. To combine and therefore complete all existing online Encyclopedias of Systems Science and Cybernetics including the “Principia Cybernetica Web” by Francis Heylighen et.al (<http://pespmc1.vub.ac.be/DEFAULT.html>), “A Dictionary of Cybernetics” by Klaus Krippendorf (<http://pespmc1.vub.ac.be/ASC/KRIPP.html>), and the efforts of Stuart Umpleby to start a new Encyclopedia build on the “ASC Glossary on Cybernetics and Systems Theory” (<http://pespmc1.vub.ac.be/ASC/ASCGloss.html>).
3. Create a living system of systems and cybernetics knowledge
4. Attract young scholars
5. Engage as many people as possible as readers as well as producers of systems and cybernetics knowledge and its applications
6. Reach out – give systems science theory a voice (again) in diverse transdisciplinary studies and in our societies

### HOW TO DISSEMINATE AND PRESERVE SYSTEMS KNOWLEDGE?

This question was raised at the last IFSR Fuschl Conversations 2008 in Austria. The following figure summarizes the outcome of the conversation.

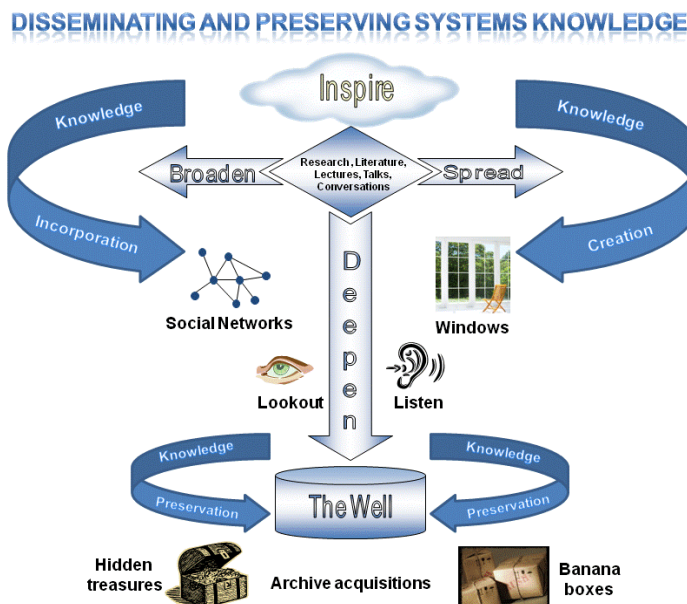


Fig.1: Disseminating and Preserving Systems Knowledge, shared vision by Blachfellner, Chroust, Herrscher, Hofkirchner, Kalaidjieva, Ossimitz presented at the Fuschl Conversations 2008 (Blachfellner, St. 2008)

The most common problem in disseminating and preserving knowledge is the fragmentation of the new and the old knowledge basis. In most cases there are people dedicated to the preservation, e.g. archiving or creating encyclopedias; and there are people who use these bases to apply it in research, lectures, talks, conversations, applications and who broaden and spread the knowledge base. After a certain period of time, e.g. when those who created and those who apply a knowledge base are separated by age/generations, one can

witness the separation of two parties. The youngsters think the elders are talking about dead material, the elders think the youngsters are talking about applications they do not understand anymore, and feel being misunderstood or misinterpreted. Prejudices follow.

But would it not be great if we could connect the deep knowledge of the elders, in the chosen metaphor, the well, with the inspirations it has caused? And would it not be fascinating to incorporate the ongoing created knowledge in the well, again? And would it not be worth to gather our efforts to create a system that is in a sense living, co-evolving, recognized as a valuable source of wisdom, for theoretical as well as practical problem solving?

In Fuschl we talked about the power of social networks and the creation of - a metaphor again - windows for people to look into the system of systems science and also most necessary the same windows for systems scientists to look out (mainly digital tools to guarantee open access). Questions still remain and should be further discussed; can we somehow support these gatherings? Can we bridge generations and schools within the already fragmented field of systems science? Should we preserve this field of knowledge from being forgotten, not only in our societies but also in our universities? Is this purpose reasonable?

In the Fuschl conversation we first concentrated our creativity on the well itself, the work Charles François has started with his "International Encyclopedia of Systems and Cybernetics" (Saur 2004, 2nd Ed.). Charles François asked the members of the Fuschl conversation to find a possibility to preserve his heritage and make it available for a broader audience to work with his contribution again. We thought about an online project. Some brought up the idea and best practice example of Wikipedia, a collaborative knowledge base. A discussion followed about the differences between lay and expert knowledge and the quality of the contents produced by "everybody". Another obstacle still is Saur/deGruyter holding the copyrights to the Encyclopedia of Charles François. The International Federation of Systems Research agreed to start negotiations with the German scientific publishing house, actually deGruyter is not planning to produce an online resource themselves. Wolfgang Hofkirchner was appointed as the project leader to define and deploy the Encyclopedia of Systems Science and Cybernetics Online (ESSCO) based on Charles François work. The conversations continued after the Fuschl meeting and the following concept emerged.

## HOW TO ENGAGE PEOPLE?

We were thinking about an integrating approach following the ideas explored in Fuschl. We were also always thinking from the user's perspective, their needs and their benefits.

What is an encyclopedia? A reference system, which should be referential in itself (e.g. hyperlinks within the text)? Or maybe a source of knowledge others repeatedly should refer to (e.g. citation, hyperlinks pointing to articles or items in the encyclopedia)? Or even a reference system that refers outside itself (e.g. hyperlinks pointing to another source on the web)? If it is a reference system, that is only referential in itself, one might use it in case of uncertainty (e.g. to look up an author, a concept and its origin, etc.). But it is not used on a regular basis and visited often, mostly it is not even cited because authors will look up and then cite the primary source.

So how can we ensure that people visit the encyclopedia repeatedly, that it is useful, that it is used? We thought about users as readers and authors of the encyclopedia, the so called "prosumers" of the content and we have thoroughly thought about the distinction between open, semi-open and closed content production.

But how can we engage people, so that they contribute to an encyclopedia? We thought about designing a technological tool-set, that enables users to write their own text in collaborations in the same code as the encyclopedia is written, we thought about a Wikipedia project with the special design of an interconnected editorial and an open environment.

But why should people contribute at all? There is only one answer according to latest research: People are longing to get recognized as human beings, as a valuable source, as a contributing part of a community, as experts in a field, and as social nodes. So we were thinking about a social network application that focuses on building bonds. Currently it looks like as if everything is about trust, social relationships, and bonds in the digital world, and there is a marketing phrase for it, web 2.0.

Figure 2 is given a sketch of the envisioned architecture. It uses an analogy called the onion model. The heart of the system is the encyclopedia using wiki technologies and an editorial process, which is completed by an open wiki, where users can contribute.

The next slice is a research paper repository (could be a repository only or an open journal publishing system), which can be linked into the encyclopedia and in which the encyclopedia will link.

The last slice is the blogosphere, blogs which are interconnected and are more application oriented. Blogs are written in a more journalistic style, but are a valuable source to look out in the world, to catch the weak signals (e.g. from the fields of game developments, artificial intelligence, organizational design, knowledge management, open innovation, crowd sourcing, web 2.0, etc.). Blogs can also be a valuable source to look into the well, the encyclopedia, because journalists need references.

And how should we know about each other? We should get introduced by each other. The social network application holds it all together. If someone is writing an article in the wiki, sending a research paper to the repository, writing a blog entry, he/she has one profile, one userID, one password to log on. And with his/her profile he/she can also show his/her connections, history, interests, personality. He/she has the potential to get recognition, to get visibility. This system might attract young scholars, too. And from the perspective of the elders, and those who want to preserve the knowledge base, it is most comfortable. You do not have to look out all the time. Who is in the field, who is messing with my ideas, what is the next trajectory? It all happens in your yard. Just look out of the window. ;-)

#### KNOWLEDGE CO-OPERATION, COLLABORATION AND CO-CREATION SPHERE

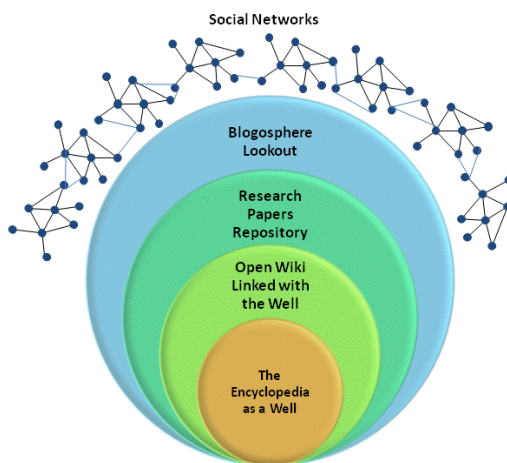


Fig.2: Knowledge co-operation, collaboration and co-creation spheres on the Internet (Blachfellner, St. 2008)

## HOW TO ENSURE THE QUALITY OF INFORMATION?

This was one of the most debated questions at all. After all the systems community is an expert's community par excellence. So here is the idea we came up to solve this challenging problem. The quality of the well needs to be protected. This is not necessarily the opinion of the authors, but it was a requirement to the project design.



Fig.3: The Guards of the Well (Blachfellner, St. 2008)

We think that the encyclopedia needs up to three editors, who are responsible and recognizable as the leaders of the project. Next to the editors an editorial board will be needed, to have a decision committee and a workforce to maintain the content. The editorial board should be elected by the editors. It is crucial that this team holds to the mantra: unity in diversity.

The editors and editorial board should have the support of an advisory board. It's functions are to advice the editorial team, and in case settle a dispute within the editorial board or between the editorial board and an author. All systems science organizations should be eligible to propose one of its members for the position of an advisor or even delegate one of its members to the advisory board. Eligible system organizations should be members of at least one of the system science umbrella organizations like e.g. the International Federation of Systems Research (IFSR) or the World Organization of Systems and Cybernetics (WOSC).

Each content in the encyclopedia will be tagged with metadata (the necessary categories have to be discussed and decided) including the original author(s) of a text. Readers have to be able to search for example for the subset of Charles François original comments or work.

The encyclopedia content will be edited. From the technology perspective there will be one wiki, but the encyclopedia content will be highlighted as certified content, meaning proven by the editorial team, next to the open content contributed by a registered author. Each contribution will attribute to an identifiable user account. There will be no anonymous or nickname authorship! The advantage of one wiki still remains, the advantage of collaborative thinking and writing, the advantage of one code, the advantage of quick reference!

The certified content will have a protection against revisions by unauthorized persons, comments should be enabled. The open wiki content should be open for revisions, but as every wiki software be protected by the revision history.

Nevertheless after all this safety belts, we think it is crucial that the systems science community is not a closed system. We all know the destiny of closed systems in equilibrium states. We strongly recommend opening up

and welcoming the advantage of open innovation and crowd sourcing, even though this means surfing on the edge of chaos from time to time.

#### WHICH TECHNOLOGIES WILL WE USE?

The Internet, open source software, wiki software, community tools, a repository tool, blogging software

#### WHAT ARE THE NEXT STEPS?

We need to discuss the concept, its pros and cons, and develop a vision we want to achieve. We need to form a team, whose members are willing and ready to transform the vision into reality. Because this concept focuses on knowledge creation and preservation as a social function we strongly recommend the founding team members to elaborate a normative constitution for the envisioned community of interest that will be announced publically to the involved stakeholders. While or after forming the team we can design further needed processes in detail, identify roles, and assign people to these roles and the following tasks and subtasks. After identifying the requirements of the designed processes we will be able to scout for the most appropriate open source software solutions.

But first we need the feedback and the commitment of a core team to get started.

## APPENDIX

### THE AUTHORS OF THE DRAFT CONCEPT

#### STEFAN BLACHFELLNER

Stefan is founder and Managing Director of INDABA Corporate Consulting e.U. and Managing Editor of the international peer-reviewed "tripleC " Open Access Journal for a Global Sustainable Information Society [ISSN: 1726-670X] <http://www.triple-c.at/>. In 2004 - 2006 he supported the development of the strategic focus "ICT&S - Information and Communication Technologies & Society" at the University of Salzburg as the Center Manager. Since 1999 he is a business coach and consultant in the areas of organizational development, corporate communication, knowledge management, strategic management and business excellence with broad experience in Fortune TOP 500 industries, and the service sector as well as in public administration and cultural and educational organizations.

Graduate at the University of Salzburg he studied Communication, Management- and Social Psychology and Economic- and Social History. 2007 he started his Doctoral Studies in Philosophy with Prof. Dr. Wolfgang Hofkirchner. He is faculty member at the Hernstein Institute for Management and Leadership, and lecturer and thesis supervisor at the Upper Austria University of Applied Sciences and the Danube University Krems in Austria.

If this project will be of interest for the involved stakeholders he will take on the responsibility of the project leader Community & Communication for the International Federation of Systems Research (IFSR) and support the team with advice and workforce to transform the challenging vision into reality.

#### MEMBERSHIPS

- SoL - Society of Organizational Learning, Cambridge, MA, USA: Connection Member <http://www.solonline.org/>
- Bertalanffy Center for the Study of System Science, Vienna, Austria: Full Member <http://www.bertalanffy.org/>
- IFRS - International Federation for Systems Research: Fuschl Conversations Member of Team 3 "Disseminating, Accessing and Communicating Systems Knowledge" <http://www.ifsr.org/>
- Change the Game Initiative - Open Innovation Hub for Ethics & Strategic Leadership, Global: Co-founder and Ambassador <http://www.changethegame.org/>
- ThinkCamp - Learning Experience for Young Sustainable Innovators, Germany, Austria, Switzerland: Partner <http://www.thinkcamp.eu>
- PWM - Plattform Wissensmanagement [largest German speaking community for Knowledge Management], Austria: Full Member <http://www.pwm.at/>
- ZWM - Zentrum für Wissensmanagement [Center for Knowledge Management], University of Linz, Austria: Full Member <http://wissen.ce.jku.at/>
- ICIE - International Center for Information Ethics, Karlsruhe, Germany: Member <http://icie.zkm.de/>
- IRIE - International Review of Information Ethics [ISSN: 1614-1687]: Guest Editor <http://www.i-r-i-e.net/>
- ICV – Internationaler Controller Verein [International Controller Association], Germany, Austria, Switzerland: Full Member, Project Manager in the Future Think Tank "Ideenwerkstatt" <http://www.controllerverein.de/>
- Hernstein Institut für Management und Leadership [Hernstein Institute for Management and Leadership], Vienna, Austria: Faculty Member <http://www.hernstein.at/>
- Donau Universität Krems [Danube University Krems], Krems, Austria: Lecturer <http://www.donau-uni.ac.at/>
- FH Steyr [Upper Austria University of Applied Sciences], Steyr, Austria: Lecturer <http://www.fh-ooe.at/campus-steyr.html>
- Salzburg Global Seminar, Salzburg, Austria: Observer <http://www.salzburgseminar.org/>

#### CONTACT

INDABA Corporate Consulting e.U., Steinerstraße 9, 5020 Salzburg, Austria, <http://www.indaba-consulting.com>,  
[stefan.blachfellner@indaba-consulting.at](mailto:stefan.blachfellner@indaba-consulting.at)

---

## WOLFGANG HOFKIRCHNER

Your short CV here

---

### MEMBERSHIPS

- Your memberships here
- Your memberships here

---

### CONTACT

Your contact here