Morenian tools develop environmental collaboration processes

Instrumentos morenianos aprofundam os processos de colaboração ambiental

Herramientas morenianas profundizan los procesos de colaboración ambiental

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Abstract

People of various backgrounds collaborate on environmental issues. They may have the same explicit goals, but their immaterial cultural conserves, e.g. mental models, rules and values – their tacit knowledge –, often diverge. Morenian tools such as sociodrama and relationmetry realize mental models, attitudes and values, helping to create a collective perception. This frees time for real problem solving and forms a holistic understanding of complex underlying structures. The use of Morenian methods might lead faster to proper solutions. The focus is on ways to enrich and speed up multinational collaboration connected to environmental, social and economic themes, thus sustainable development. Great interest lies in the possibility of uniting explicit planning methods, including computerized aids with Morenian tools.

Keywords: Moreno, Jacob Levy, 1892-1974, environmental education, role playing, mental model, intelligence

Resumo

Pessoas de várias origens colaboram em questões ambientais. Podem ter os mesmos objetivos explícitos, mas suas conservas culturais imateriais, por exemplo, modelos mentais, regras e valores – o conhecimento tácito –, muitas vezes divergem. Instrumentos morenianos como o sociodrama e a "relaciometria" concretizam modelos mentais, atitudes e valores, contribuindo para criar uma percepção coletiva. Isso libera tempo para a resolução de problemas reais e forma uma compreensão holística das complexas estruturas subjacentes. O uso de métodos morenianos pode levar mais rapidamente a soluções apropriadas. O foco volta-se para formas de enriquecer e acelerar a colaboração multinacional conectada aos temas ambientais, sociais e econômicos, portanto, ao desenvolvimento sustentável. Há um grande interesse na possibilidade de unir métodos explícitos de planejamento, incluindo recursos informatizados, com os instrumentos morenianos.

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Resumen

Personas de diversos orígenes colaboran en cuestiones ambientales. Ellas pueden tener las mismas metas explícitas pero su conservación cultural inmaterial, por ejemplo: modelos mentales, normas y valores – conocimiento tácito –, a menudo diverge. Herramientas morenianas, como sociodrama y relacionmetría, concretizan modelos mentales, actitudes y valores, contribuyendo así a crear una percepción colectiva. Esto libera el tiempo para la resolución de problemas reales y forma una comprensión holística de las estructuras subyacentes complejas. El uso de métodos morenianos puede llevar más rápido a soluciones adaptadas. El enfoque es sobre las formas de enriquecer y acelerar la colaboración multinacional conectada a temas ambientales, sociales y económicos, de este modo el desarrollo sostenible. Hay un gran interés en la posibilidad de unir los métodos de planificación explícitos, incluyendo ayudas informatizadas, con las herramientas morenianas.

1. INTRODUCTION

In an international sustainability planning, research or negotiating process interpersonal communication is channeled through a multitude of professional and national languages. The participants must be ready to modify their opinions and attitudes, and accept facts from new information. Normally those processes take a lot of time and energy, and it is crucial to keep the working atmosphere open and positive.

Morenian methods[1] reach subconscious wisdom and increase internalized knowledge thus: A) enhance *systems intelligence*[2] and common *mental models*[3] for creating collective perception of problems, distribute *tacit knowledge*[4] and evoke new ideas, B) build a foundation for the sustainable collaboration that is required to gain successful outcomes from

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[1] *Morenian methods* include for example sociometry, sociodrama and role-training.

[2] *Systems intelligence* involves the ability to use the human sensibilities of systems and reasoning about systems in order to adaptively carry out productive actions within and with respect to systems (Saarinen & Hämäläinen, 2010). It could be simply said that systems intelligence connects systemic awareness and sensitivity to the concept of emotional intelligence that Salovey and Mayer presented in 1990.

[3] A *mental model* is a representation of a material or immaterial real-world system in the mind of a person. Our mental models define the way we see the world around us, and how we act in it (Senge, 1990). Mental models help a person shape their behavior in a sensible way and may save time and energy in decision-making. In this way they come close to Moreno's concept of *cultural conserves* in their immaterial form (Moreno, 1946; Partanen-Hertell, 2005). Mental models can also block us from seeing facts and solutions, thus new knowledge demands us to modify and expand them.

[4] *Tacit knowledge* is known by an individual, but difficult to communicate to others, thus "we can know more than we can tell" (Polanyi, 1983/1966). This kind of knowledge often consists of traits of culture and habits or is bound to using equipment. It produces almost automatic thinking and behavior. People may not be aware of their knowledge or its usefulness to others. The transfer of tacit knowledge usually requires besides training or personal experience the personal contact, trust and a special place "Ba" (Nonaka & Takeuchi, 1995; Nonaka, Toyama & Konno, 2000). Tacit knowledge can both expand and restrict our possibilities to solve problems – the ability to examine it interactively is essential.

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complex international and trans-cultural processes, C) give the participants a feeling of ownership of the task and a dedication to finding solutions and thereby resolve conflicts already during the preparation and implementation of decisions, D) help participants move from disorientation and confusion to realization and innovation.

New methods are needed, when sustainability issues bind together various interest groups in very complex ways connected to environmental, social and economic themes.

2. RELATIONMETRY

Sociometry (Moreno, 1953) examines the relations between people. It inspired me in the 1990's to develop "relationmetry" for collaborative processes. That is a context in which to examine dynamic systems that may be interlinked with other systems and factors or "drivers". It explores interactions such as connections, interdependencies, feedback, attitudes, roles and other dynamics between issues and ideas. Relationmetry helps concretize and externalize mental models or insights that people consciously or un-consciously have concerning various material or immaterial issues such as "environmental awareness". (Partanen-Hertell, 2005; Partanen-Hertell, Harju-Autti, Kreft-Burman, & Pemberton, 1999). The characteristics and dynamics of the systems may be explored qualitatively and semi-quantitatively also assigning numerical values to variables. This may happen in different depths using facts, tacit knowledge, intuition and emotions. Relationmetry may use scores, weights, symbol work, visual techniques, role taking etc. The outcome may be analyzed and described with tools such as: the relation matrix, the relation-grams, the relation maps, or the miniature of a "world". One goal is to accept the multitude of the "truth" of the world.

Work with relationmetry may strive towards a common mental model of a group that gathers together diverse viewpoints. The goal may not be a consensus but for a common understanding of similarities and differences in views, values and goals. At the same time relationmetry helps to create a common language among the participants. It may also serve as a basis for sociodrama or role training and especially for future collaboration. Using relationmetry it also is fairly easy to find out the 'hot spots' where crises are coming to the boil or the "cool spots" where development has stagnated. These are often the focus areas of further work. The level of relationmetry used may vary from intellectual clarification to deep personal exploration: Discussion may keep the work on surface level. Writing on a black/whiteboard makes the dialogue more "serious". Tags and post-it notes on the wall are less emotionally activating than the same tools in colors on a table or on the floor. Simple symbols like buttons often activate the unconscious less than complicated symbols such as picture magnets, Lego bricks, puppets, scarves, stones or flowers. Taking a role in a relation-atom already demands trust and personal courage; developing this role or creating a new one even more. Relationmetry makes it possible to reach some essential elements of the theme that dwell in the depths of the unconscious.

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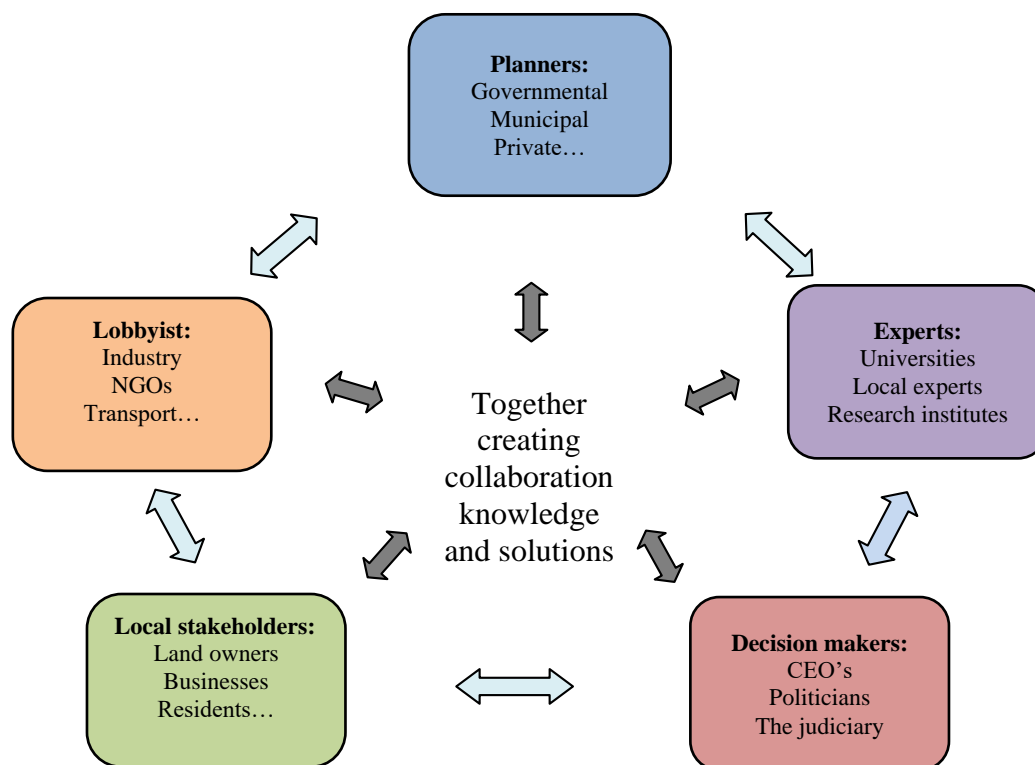## 3. THEMES, PARTICIPANTS AND PROCESSES OF ENVIRONMENTAL COLLABORATION

Figure 1. Parties and goals of transnational environmental planning; a system of interest groups and their cultures, countries, languages, hierarchies, motives and knowledge.

Environmental issues tangle multi-scale scientific, economic and social viewpoints together – not to mention national and cultural attitudes and interests (Figure 1). Sustainable decisions are based on a common understanding and goals but the means to achieve them may be very different or even contradictory (Harju-Autti, 2016). Thus participatory meetings are used as an important methodological tool. In those processes it is crucial to invite and motivate the relevant interest groups to collaborate. The use of the tools of relationmetry and sociodrama may help to identify interest groups and their objectives and culture. The themes of collaboration where Morenian methods have been used vary from the analysis of environmental accidents to the exploration of communicative ways to influence water protection, and from enhancing multinational environmental awareness to creating of a good basis for a concrete project (Partanen-Hertell, 2009a, 2010a; Partanen-Hertell et al., 1999).

SCENES, a four-year EU funded research project, was a good example of a complex long-term collaboration process in an environmental context. It explored the views, values and mental models of stakeholders from pan-European, Baltic regional and 10 pilot areas within Europe with their own panels, and strived to connect them to each other and to quantified data (Figure 2 e). SCENES aimed at developing a set of comprehensive scenarios for Europe's freshwater futures up to 2050. The goal was that those scenarios would work as a reference point for long term planning of European water development, alert policymakers and other stakeholders about occurring problems, and take into account surprises and uncertainties pertaining to water resources.

The number of participants of each panel workshops was on average 22. In the workshops tasks were done with the whole group, in small groups, and some individually.

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Participants were mostly water management people, but scientists, farmers, members of NGOs, journalists, representatives of industry, irrigators, and government officials were also often present (Sarkki, Varjopuro & Vliet, 2011). Special attention was paid to the description of the methodology used for scenario development (Vliet, Kok, Lasut & Sendzimir, 2007) and to the design of the participatory scenario-building process. The panels met three to four times at half year intervals. At each level panels were designed to consist of a meaningful mix of stakeholders (Kaljonen & Varjopuro, 2011).

At first existing scenarios were selected and available information on drivers and policies assembled. This was run through a quantitative computer model of pan-European water availability (WaterGap). Then more refined scenarios (storylines) of up to 2050 were developed at both the pan-European and regional scales, with participatory panel workshops. The storylines explored, for example, how social, financial, economic and cultural changes will modify the future demand for water in Europe and how the coping capacity of people in various parts of Europe to drought can be increased over time. The quantitative scenarios were used to check the consistency of the qualitative scenarios, to provide numerical information and to 'enrich' the qualitative scenarios by showing trends and dynamics not anticipated by the storylines. Qualitative and quantitative scenarios provide a powerful combination and compensate for each other's deficits. The third phase involved a synthesis and dissemination of the output to external stakeholders and end-users (Kämäri et al., 2008).

Several of the participatory methods used in SCENES were linked to sociometry and relationmetry: Talking Pictures, card techniques, spider-grams, Collages of Future, Fuzzy Cognitive Mapping (FCM) and timelines from storyline development and scenarios to back-casting. The participants in the workshops valued highly the process and the networks that were built. Commitment was dependent on the mobilization of linkages that the process of knowledge production was able to build to actual decision-making (Kaljonen & Varjopuro, 2011). Time devoted to exercises and group work played a strong role in the actualizations of different characteristics of good participation (Sarkki et al., 2011).

4. CONNECTING THE MORENIAN TOOLS TO ENVIRONMENTAL COLLABORATION

Meaningful and safe applications of sociodrama, as well as many of the tools of relationmetry require a facilitator who has throughout training in Morenian methods. A wider use of Morenian methods could save time, resolve conflicts, enrich the process and deepen the outcome by giving the participants more insight emerging from unconscious and co-unconscious levels. However, Moreno (1946/1977, p. vii) considered that co-conscious and co-unconscious states are by definition, such states which the partners have experienced and produced jointly and which can, therefore be only jointly reproduced or re-enacted. The challenge is how to tie the outcome to the reality outside the group.
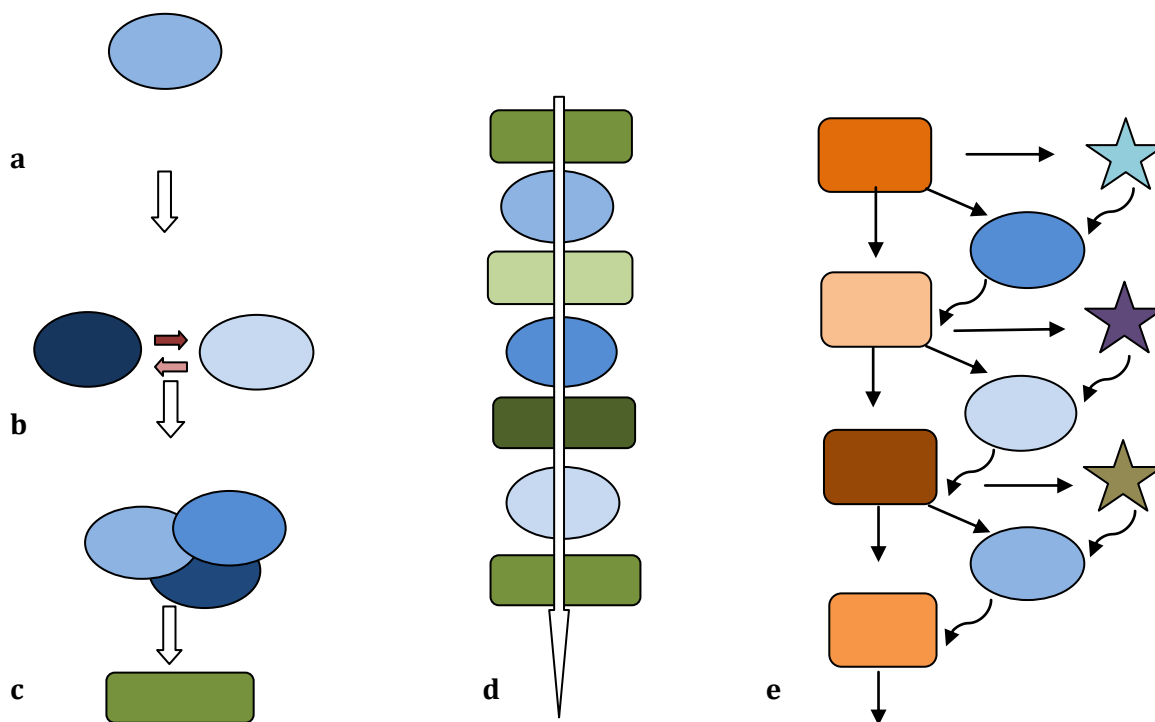
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Figure 2. Various structures of processes with explicit and/or Morenan tools. The blue ellipses symbolize Morenian or other participatory workshops, the boxes the use of explicit planning methods and the stars the use of computerized models. Arrows show the flow of information and action.

Morenian tools may be used in the form of a workshop or a cluster of interlinked workshops (Figure 2a, b, c), as a part of a single process (Figure 2d) or in connection to a complex process (Figure 2e). The aim may be a learning process for participants or an attempt to produce semi-quantified or quantified factors for further analysis. They may also be used as a tool of understanding when the results from research are analyzed. Understanding concepts like "global cross-national environmental awareness" and "environmental worldviews in organizations" (Harju-Autti, 2016) could deepen. The goal is to form a picture of various interpretations of 'facts' and causalities or of human behavior connected to them. Hidden agendas and different understanding of the key points, affected by human sets of attitudes and emotions are powerful aspects enriching the process.

5. MORENIAN TOOLS IN A CREATIVE COLLABORATION PROCESS

Workshops have been a mixture of collaborative dialogue and Morenian exercises. Below are the main steps of the work (Partanen-Hertell, 2009a, 2009b, 2010a, 2010b):

Preparation, selecting the Morenian tools, and the warm up process for the facilitator:

Focus on gathering information on the task and theme of the collaboration process as a whole. Identify the stakeholders and a possible combination of them to build up participatory

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groups. Analyze the conceivable goal and available Morenian methods. Analysis of the facilitator's own set of values and goals is needed as well (Wiener, 1997). Which specific issues in these contexts could be explored and worked out with using Morenian approaches?
Possible tools: Relation-grams, expert networks, home pages of organizations etc.

Space and tools of the workshop, territory, time management:

Consider the space: enough room and tools for relationmetry, sociometry and sociodrama? Territory must build trust: In which country the workshop takes place? Who owns the building? Time management affecting motivation and energy: when (morning / afternoon / evening), how long (half a day / two days / a week), with which frequency (every week / once a month / every half year)?
Possible tools: Dialogue with other organizers, relationmetry, visits to the place etc.

Warming up the members of the group, creating trust and developing 'tele':

Most essential in the beginning is forming a group, getting to know its members and creating enough trust and tele for the next step: What kind of group is this? What are the goals of the gathering? Which stakeholders are present? How are the participants connected to the process and to each other? Who has power? How is the theme linked to each participant's individual concerns? What worries do the participants have about the theme and each-other?
Possible tools: Discussion, storytelling, symbols, pictures, card techniques etc.

Warming up the group to the theme:

Warm up the group to the actual task. Avoid working at too intimate a level. Questions linked to this step are: Which issues are connected to the theme? How are the questions or the participants connected to each other? What kind of mental models or cultural conserves around the theme exist in the group? What kind of resistance and defenses are present?
Possible tools: Dialogue, short narrative examples, sociometry, relationmetry etc.

Setting up the stage and deciding upon a scene and a case:

Create a common mental model of the theme with the group by helping the participants to unify their personal mental models (Figure 3 and 4). The concrete common mental model can be set up on a black/whiteboard, table or on the floor. The 'issues' may include factories, lakes, organizations, roles etc. and the links between them. The goal is not consensus but visualizing different views and connections. When the 'big picture' is ready it is possible to use it to focus on the case. The scene and the case can be real or imaginary. Questions: What kind of material or immaterial issues are connected to the topics? What kind of dynamics is present? What kind of attitudes and emotions are linked to them? Is something missing? What is really important here? Where are the hot spots or cool spots? Where should

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we focus? What kind of scene, time, roles and script could illustrate this "world"?
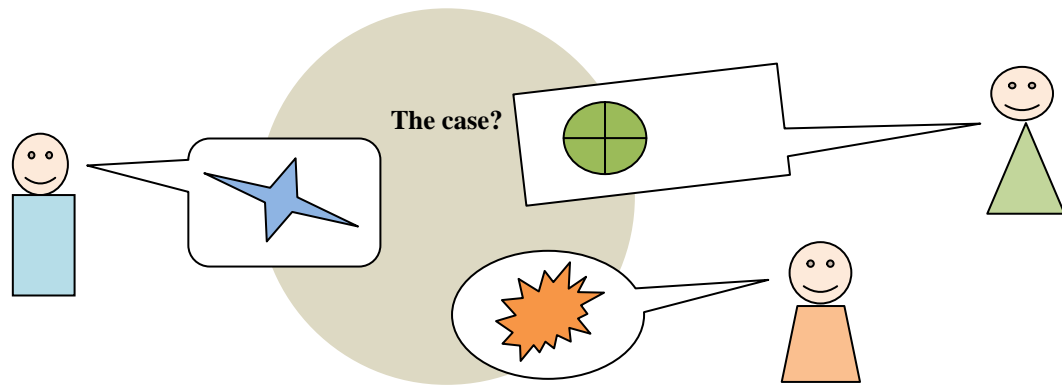*Possible tools: Sociometry, relationmetry with symbol work, scoring etc.*

Figure 3. Individual mental models and values connected to the case; relationmetry and symbol-work unveil individual tacit knowledge and help concretizing it to the other participants.
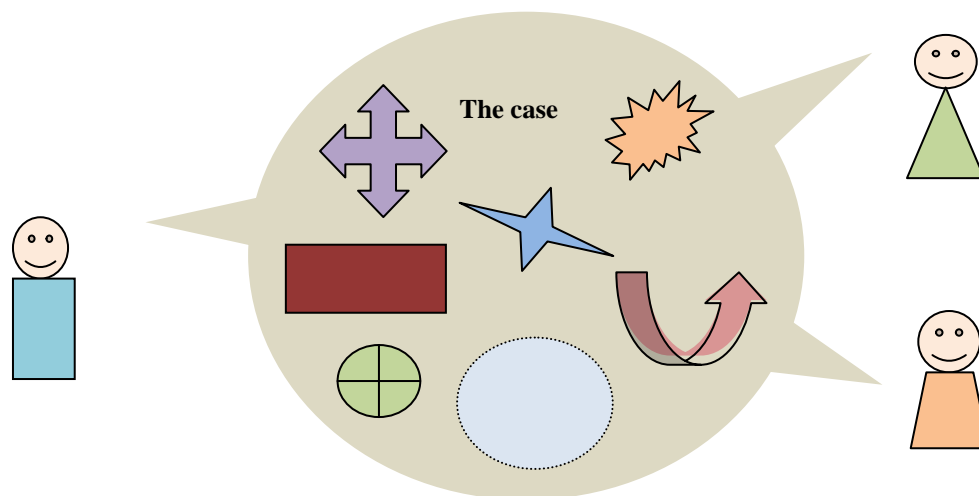
Figure 4. A common mental model connected to the case; relationmetry and symbol-work help combining individual knowledge, unveiling new issues and creating new values in the group.

Deepening the level of the process by taking roles and acting:

Your role as a facilitator changes into the role of a sociodrama director. Wake the scene to life. Ask the participants to take a role – maybe a role that they have earlier talked about. This role is often a person, preferably not their own, but can also be an institution or

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any other object. The whole group might join to the scene and build up a sociodramatic stage. Which sociodramatic tools help the authentic creative group process? Which problems tend to arise in teams, networks or collective relationships? What kind of goals, values, emotions, networks, connections, and hidden agendas are connected to various roles in sociodrama?
Possible tools: A short sociodrama or vignette, role-taking, role reverses etc.

Changing and developing the roles and scenes:

Explore the stage together from various standpoints by helping the roles to develop and the scene to change. There may be different gatherings of the roles and the timeline may be shifted backwards or forwards. The focus is on questions like: What are the main concerns from different standpoints? What are the future trends? What in the past has led to the current situation? What is unfolding from the unconscious and co-unconscious of the participants?
Possible tools: Sociodrama with multiple acts, various sociodrama techniques etc.

Catharses of intellect, attitudes and emotions:

Help the participants to integrate the experiences from the different roles, actions and storylines of the sociodrama. There usually occurs among the participants catharses of intellect, attitudes or emotions. The director may help the process along with questions, one example being: When really looking inside the roles you have taken; what do you find?
Possible tools: Monologues, letters, writing on colorful tags, symbol work, relational and social atoms, sociometry, dialogue etc.

Emotional sharing:

With powerful Morenian methods emotional sharing is essential. On a personal level it means expressing emotions, experiences and views connected to the roles, storyline and to real life. Ask questions like: What touched, impressed or astonished you here? What have you experienced here which reminds you of your real life? Which were uncomfortable issues?
Possible tools: Discussion in pairs, small groups and the group as a whole etc.

Deepening the integration of results by processing:

Process later the sociodrama and relationmetry with the participants to deepen the understanding of the theme and the issues connected to it. Natural questions in this step are these: What did we understand and learn about the case? How is the systems intelligence of a person activated when stepping into multiple other shoes? What is important to bear in mind or to do when proceeding? What kinds of commitments are needed among the stakeholders?
Possible tools: Dialogues in groups, relationmetry, spider-grams, relation-matrix etc.

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Documenting the outcome to be communicated to external stakeholders or peer groups:

In order to connect the outcomes to the overall process, good documentation and rendering the outcome to fit the formal communication and decision making of the overall process is essential. Questions to the group include: How is it best to communicate the outcome to external stakeholders? How is it possible to consolidate the commitments needed?

Possible tools: Collecting material produced, observers taking notes and transcribing discussions, video recordings, photos, writing outputs and goals in a 'peer-group language'.

Follow up the use of the results and commitments:

Follow up and evaluation are crucial especially when the work with Morenian tools is a part of a complex collaboration (Figure 2 e). In a long-term collaboration this also gives the opportunity to make adjustments to the Morenian working process. What kind of impact has Morenian work on the whole collaboration? Were the outcomes useful in the long haul? What could be modified to get better results? How to disseminate results to a wider audience?

Possible tools: Questionnaires, follow-up workshops and meetings, reports of acts.

6. DISCUSSION

In environmental context Morenian methods united with explicit planning tools may lead to a process, which change the attitudes and mental models or immaterial cultural conserves of the participants thus reshape their way of acting in life (Figure 3, 4). Also the documented outcome of the process is a new cultural conserve that stimulates spontaneity and creativity in its' sphere of influence. The use of time in the various stages of the process is significantly different when utilizing Morenian methods compared to traditional workshops. Time is needed for the warm up, group formation and for building trust. The real pay back usually comes from the efficiency and the depth of the outcome. The skillfulness of the facilitator to make use of the dynamic stages of the group, contributes to the whole process. Can it be proved that when Morenian methods are used a lot of time and throw backs can be saved in the subsequent work especially in the implementation process due to the different mental models having already been unveiled during the earlier stages? Aiming at seeking consensus may kill the various views and at the same time the richness of reality. The participants should see themselves as individuals and on another level as representatives of an interest group. It usually improves the outcome if all the stakeholders are represented in the group in order to get all the relevant views into the process. How do the selecting, timing and forming of the group impact the participants' willingness to bring forth their own opinions?

Relationmetry seems to be a tool to unveil individual tacit knowledge and mental models and combine them into a common model, which often also contains conflicts. This outcome represents more or less the reality of the participants. Is it possible to analyze and utilize the potential increase in systems intelligence of the participants while using Morenian tools during the process? Could a method be found for researching how much the Morenian methods can increase the transfer of tacit knowledge between the participants and further from the participants to their peer groups, during and after the process? It is important to thoroughly document common understandings and consolidate the commitments reached.

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Also the significance, relevance and character of the outcome should be realized. It can be misleading, when some semi-quantitative results of Morenian workshops are used as input data 'facts' for computerized models, which might not be able to understand the 'here and now' momentary character of Morenian work. The output of the computerized models can be examined with Morenian tools as well. Some other questions rise as well: Which specific issues could be worked out by Morenian approaches and what could be the benefits or the pitfalls? How should we handle the invisible power and the level of intimacy in the process? How to "read" experts' vocabularies, cultures, languages and values accurately enough?

REFERENCES

Harju-Autti, P. (2016). Global cross-national indicator of environmental awareness, and environmental worldviews in organizations, political parties and individuals (PhD Thesis summary). University of Oulu.Amazon.com.

Kaljonen, M., & Varjopuro, R. (2011). *SCENES Water scenarios raise participation in water management to central stage* (pp. 54-57). Pre-Conference: SCENES Water Scenarios, Budabest Hungary: book of Extended Abstracts.

Kämäri, J., Alcamo, J., Bärlund, I., Duel, H., Farquharson, F., Flörke et al. (2008). *Envisioning the future of water in Europe – The SCENES project*. E-Water, Official Publication of the European Water Association (EWA). Retrieved from http://nora.nerc.ac.uk/9264/

Moreno, J. L. (1953). *Who shall survive*? *Foundations of sociometry, group psychotherapy and sociodrama*. Beacon, NY: Beacon House Inc.

Moreno, J. L. (1977). *Psychodrama* (Vol. I). New York: Beacon House. (Trabalho Original publicado em 1946).

Nonaka, I., & Takeuchi, H. (1995). *The knowledge creating company*. NY: OUP.

Nonaka, I., Toyama, R., & Konno, N. (2000). *SECI, Ba, and leadership: A unified model of dynamic knowledge creation. Long Range Planning*, 33(1), 5-34. Doi: http://dx.doi.org/10.1016/S0024-6301(99)00115-6

Partanen-Hertell, M. (2005). Systeemiälyn ja mentaalimallien kehittäminen morenolaisilla keinoilla (Developing systems intelligence and mental models by Morenian means). In T. Janhunen, & S. Sura (Eds.), *Miten käytän toiminnallisia menetelmiä?* Resurssi, Finland.

Partanen-Hertell, M. (2009a). *The application of the tools of sociometry, sociodrama and other action methods in the planning process for dealing with environmental issues*. Unpublished paper. Abstract in 17th Congress of IAGP, Rome.

Partanen-Hertell, M. (2009b). *A cross-cultural encounter with environmental problems*. Compendium: 2. International Sociodrama conference. Helsinki, Finland.

Partanen-Hertell, M. (2010a). Sociodrama in Finland - an environmental context. In R.

Partanen-Hertell, Marjut. Morenian tools develop environmental collaboration processes

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Wiener, D. Adderly, & K. Kirk (Eds.), *Sociodrama in a changing world*. Retrieved from www.lulu.com

Partanen-Hertell, M. (2010b). Morenian tools save time and deepen environmental collaboration processes. 1st IAGP Latin American Regional Congress 17th Brazilian Psychodrama Congress. Águas de Lindoia, SP, Brazil.

Partanen-Hertell, M., Harju-Autti, P., Kreft-Burman, K., & Pemberton, D. (1999). *Raising environmental awareness in the Baltic Sea area*. Helsinki, Finnish Environment Institute. The Finnish Environment 327. ISBN 952-11-0528-3. Retrieved from http://hdl.handle.net/10138/40477

Polanyi, M. (1983). *The tacit dimension* (Original paper published Doubleday & Co, 1966. Reprinted Peter Smith, Gloucester, Mass).

Saarinen, E., & Hämäläinen, R. (2010). The originality of systems intelligence. In R. Hämäläinen, & E. Saarinen (Eds.), *Essays on systems intelligence.* Systems Analysis Laboratory. Aalto University, School of Science and Technology. Espoo, Finland. Retrieved from http://systemsintelligence.aalto.fi

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition & Personality*, *9*, 186-211.

Sarkki, S., Varjopuro, R., & Vliet, M. (2011). Tradeoffs Between Characteristics of Good Participatory Processes. In M. Nuttall, H. Strauss, & K. Tervo-Kankare (Eds.), *Society, environment and place in northern region*s. University of Oulu.

Senge, P. M. (1990). *The fifth discipline*. New York: Doubleday Currency.

Vliet, M., Kok, K., Lasut, A., & Sendzimir, J. (2007). *Report describing methodology for scenario development at pan-European and pilot Area scales, SCENES Deliverable 2.1*.Wageningen University, Wageningen, Netherlands.

Wiener, R. (1997). *Creative training: Sociodrama and team-building*. London: Kingsley Publishers.

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