



**Institut für Regional- und Umweltwirtschaft  
Institute of Regional Development and Environment**

**WU**  
WIRTSCHAFTS  
UNIVERSITÄT  
WIEN VIENNA  
UNIVERSITY OF  
ECONOMICS  
AND BUSINESS

Andreas Novy, Barbara Beinstein

**Transdisciplinarity and Social Innovation Research**

SRE-Discussion 2009/01

2009





**Andreas Novy/ Barbara Beinstein**

## **Transdisciplinarity and social innovation research<sup>1</sup>**

This working paper dwells on the relationship between a dialogue-oriented mode of knowledge production in line with transdisciplinarity and the flourishing of a culture of socio-economic democratisation. These scientific and cultural-political undertakings have in common an effort of bridge-building between fragmented entities, be it scientific disciplines and their mono-logical explanations or single-issue policies which foster micro-efficiency to the detriment of social cohesion and socio-economic effectiveness.

The paper starts by presenting emblematically some typical problematics of social innovations which need experience-based knowledge of practitioners as well the structure-aware knowledge of scientific research. In the second section transdisciplinary research is proposed as a research programme focussing on socially relevant problems and a structured dialogue with practitioners. Transdisciplinarity is based on a two-fold-dialogue: First, it is an interdisciplinary dialogue between different disciplines which overcome their respective research programmes and paradigms and contribute their knowledge to joint-problem solving. Second, it is a dialogue of two forms of knowledge: experience-based and analytical-structural knowledge.

In the final section, the potential of this type of research is shown to address the problematics of social innovation as a research programme as well as a socially-transformative practice.

---

<sup>1</sup> This paper has been written within *KATARSIS*, a Coordination Action (CA) of the European Commission Framework-6 Programme, coordinated by Global Urban Research Unit (GURU), at Newcastle University, UK, led by Frank Moulaert and Jean Hillier.

## Transdisciplinarity and social innovation research

### 1. Transdisciplinarity, socialisation of knowledge and democratisation

Democratic and inclusive societies need a form of knowledge production which benefits the whole population. This cannot be achieved without the active integration of different and competing perspectives in the research process right from the beginning. This presupposes a dialogue between researchers and practitioners. The latter have to be included already in the process of defining relevant research questions. This stands in sharp contrast to the common appeal to protect the freedom of science, a basic right that is even protected by constitutional law in several countries. Thus it gets clear that transdisciplinary research always constitutes a dialectical process oscillating between practical relevance and accountability on the one hand and scientific validity and freedom on the other hand. A weak form of transdisciplinarity insists on dialogue and exchange between disciplines to permit that **scientific knowledge contributes to problem-solving in society** (Mittelstraß 2005), e.g. in respect to social inclusion. The difference to interdisciplinary research lies in this case in the emphasis on the need to work on relevant societal problems. More ambitious approaches additionally aim at the **integration of experience-based knowledge into the research process**. This is often done in industrial research on technological inventions and innovations, but is also the approach used by the European Commission in social sciences.

In the research domain of KATARSIS, namely social inclusion strategies, an **inclusive and broad understanding of transdisciplinarity** is of utmost importance. Weak and oppressed parts of the population which suffer from social exclusion have relevant knowledge for creative strategies to overcome exclusion. Their own experiences with social exclusion have sharpened their understanding of main problem areas and have led to the accumulation of knowledge on how and how not to deal with it (Freire 2004). Homeless people or migrants, feminist action groups or trade unions for example are actors and organisations which experience exclusion and fight for inclusion. But they have difficulties with getting heard. For them, the participation in transdisciplinary research may provide an arena for popularising their concerns. Therefore, the setting of research has to be given due importance to permit the inclusion of peripheral groups. This means overcoming an apparently neutral understanding of knowledge production and pro-actively empowering subaltern interests of class, gender and

ethnicity. This calls for settings that embrace written and oral forms of exchange as well as arts and multi-visual representations of problems.

Transdisciplinary research in favour of social inclusion aims at **overcoming fragmentation in society and knowledge production**. It is a concrete utopia of scientific production which is organically related to the socialisation and democratisation of the access to and use of knowledge (Hollaender/Leroy 2001: 234). It is a form of **public knowledge** that should be made available via open-source technologies. Transdisciplinary projects have the potential to constitute “powerful interventions into local systems” (Thompson Klein 2001: 114) by the “taking of ownership” (Häberli et al. 2001: 9). of the results of transdisciplinary processes by involved groups (Häberli et al. 2001: 9). Through the integration of as many relevant actors as possible the chances of achieving “socially robust knowledge” (Nowotny 2003) are enhanced.

## **2. From inter- to transdisciplinary research: opening up researcher´s perspective towards real world problems**

Transdisciplinarity is a method that is well suited for democratic and dialogue-oriented societies that aim at mobilising knowledge for public decision making. Transdisciplinarity creates places of dialogue, based on a **question-orientated educational approach** that inquisitively declares assumed certainties as problematic: Often enough economists, for example, propagate growth strategies, but how much growth can the earth endure? Natural scientists in fact analyze the environment, but what do they know about political economy? Climate change, water shortage, harvest and agricultural earnings are topics of some; others concentrate on competitiveness and industrial growth and Katarsiens on social inclusion. What do they have to say to each other? What have they learned from each other? Interlinked thinking requires the interdisciplinary exchange of natural, social and economic sciences. Interdisciplinary scientific approaches are committed to **cross-linked thinking**: In economics, for example, approaches that understand economy as embedded in society, like it is happening in **institutionalist approaches**, refreshed by DEMOLOGOS, are particularly interesting (Moulaert/Jessop 2006). In natural sciences, the concept of sustainability alludes that the sustainability of systems are to be understood not only ecologically, but also socially and economically. **Political ecology** offers an approach to deal with these topics critically (Swyngedouw/Heynen 2003). But it is within society that antagonistic interests are clashing

and have to be resolved. Therefore, research has to move beyond its own walls and interfere in power-structured and interest-driven socioeconomic development<sup>2</sup> (Novy et al. 2006).

Transdisciplinarity links theory and practice in various ways in order to help solving existing problems of social exclusion. This requires the willingness to **experiment with new forms of thought and action – socially creative strategies** -, because problems usually get pigeonholed according to responsibilities, competences and disciplines. Political-bureaucratically this happens through the division of labour between ministries and departments. Academically, the division of universities in disciplines prevents interdisciplinary and transdisciplinary research. This fragmentation can likewise be observed in civil society: environmental NGOs fight against climate change, developmental NGOs combat poverty and trade unions campaign for growth and employment. This partition of the world into pigeonholes leads to various detailed responsibilities and ends with no one being accountable for the whole, the very development as a coherent process. Participants in transdisciplinary dialogues are designated to **discover new interconnections** between allegedly different dimensions of social exclusion. This type of reflection aims at coherence and exceeds the horizon of the own, often limited view of problems. By collective cogitation of people with diverse experience and different expertise it becomes possible to enhance, support and facilitate certain processes identified as desirable. Here science can provide valuable assistance, especially if it sharpens and uses its own potentials in the exchange with knowledge of experience. But change should not stop with the diffusion of information, the appropriation of knowledge and consciousness-raising. **Thinking differently requires political rethinking and other forms of political agency** as well: Administratively, to think cross-linked relating to the state for example means a stronger cooperation between diverse ministries and different DGs of the EC. It contradicts an integrative understanding of development if the ministries of finance and of economics, because of their position of power, put the logic of growth and budget politics above the interests of social inclusion, sustainability and poverty reduction. Transdisciplinarity needs specialists who look beyond

---

<sup>2</sup> In the field of social inclusion, KATARSIS tries to make available a broad expertise and to harness the same through dialogue and translating work for an integrative understanding of exclusion dynamics and socially creative strategies. Joint research between Austria and Brazil on solidarity economy is an example of knowledge exchange. Katarsiens have been involved in a workshop of researchers and practitioners from Brazil and Europe to discuss the potential of transcontinental knowledge sharing ([http://www.pfz.at/index.php?Art\\_ID=523](http://www.pfz.at/index.php?Art_ID=523)).

INSERT different examples from KATARSIS

their own immediate concerns and disciplines, and invites practitioners who are eager to search for exchange and alliances with new partners. This poses organisational challenges.

### 3. Organising transdisciplinary research: a twofold dialogue

Interlinked thinking alone is not sufficient to solve problems. Therefore a dialogue between knowledge generated by science and such generated by everyday life is important. The main defining features of transdisciplinary research are:

- **relevant socioeconomic problem** as starting point (Karl-Trummer et al. 2007: 5)
- **collaboration** of researchers from different disciplinary backgrounds and practitioners (Karl-Trummer et al. 2007: 5)
- **research question and aims are elaborated jointly** (Thompson Klein 2001: 110; Karl-Trummer et al. 2007: 5)
- **participatory research process**: all partners are involved in all important planning and decision processes (Karl-Trummer et al. 2007: 5)
- **recursive research process**: regular evaluations of cooperation processes and results form the basis for future work (Karl-Trummer et al. 2007: 5)
- **joint endproduct** of research and practice (Häberli et al. 2001: 12; Karl-Trummer et al. 2007: 5)

These features differentiate inner-scientific dialogue and interdisciplinary approaches from transdisciplinarity as a form of action research. **Problem solving ability** emerges not until this second form of dialogue. “Transdisciplinary research” denominates research processes in which **researchers and practitioners participate on an equal footing** right from the beginning (Beinstein 2008). Transdisciplinary research is based on settings of **team work and dialogue**. Democratic exchange of knowledge wishes to link and produce knowledge to enable an integrated perception of development that takes complexity as well as relatedness seriously. Its investigation requires innovative forms of organisations in order to generate such kind of knowledge. The basis of transdisciplinarity is a **twofold dialogue** that does not monopolize knowledge within the walls of university, but that wants to harness the same for practical action. A twofold dialogue arbitrates between disciplines of science and between science and everyday life (Novy 2008). It is particularly suitable for **building bridges between different perspectives** and to **translate between dissimilar languages** of science

and to interpret ways of thinking and living. Transdisciplinary cooperation means **learning from each other and building alliances for common aims**. Cooperative and sustainable steps of coordinating action towards social inclusion demand the cooperation of different actors within and beyond the scientific community. Only by means of cooperation, researchers, NGOs and social movements which promote socially creative strategies to overcome exclusion become competent partners and critics of the state, and are able to criticize the one-sidedness of ministerial-based problem solving and to demand an integral approach. This broad cooperation and alliance building has existed too rarely till now. It is a key organisational challenge, a social innovation for public knowledge production and use. This broad mobilisation of diverse knowledge is essential, because the alleged differences are taking place in the same world<sup>3</sup>.

#### **4. Transdisciplinary communication strategies**

Transdisciplinary research is based on diverse forms of communication and exchange. Although it might only serve the interest of private stakeholders in industrial development, if it focuses on inner-firm problems, it has a huge potential for strategies of social inclusion as well, e.g. in the form of social platforms. Democratisation and socialisation cannot take place without adequate communication strategies which strengthen citizenships and partnerships between equals. Transdisciplinarity is a form of knowledge production based on equal individuals and collective learning.

With regard to team-building and the establishment of trusting relationships between the different project partners regular meetings and occasions for **informal gatherings** (e.g. social dinners etc.) are vital (Häberli et al. 2001: 12). Other helpful, although mostly mono-directional, communication tools might be for example the creation of an **interactive website**, an **intranet**, small **publications in native languages** accessible to regional stakeholders, the **translation** of the executive summaries of deliverables of particular practical relevance as well as the establishment of a stakeholder database in order to keep stakeholders regularly informed about research progress. This does not go together with traditional academic hierarchies. Researchers should not regard practitioners as mere “users” of their research

---

<sup>3</sup> An example in this direction has been the Transborder Laboratory of Cooperation from below which took place in Brno in september 2007 ([http://www.ipe.or.at/index.php?art\\_id=67](http://www.ipe.or.at/index.php?art_id=67)) where members from EU-research projects, other researchers, social movements and NGO-activists discussed problems of transborder cooperation in Central Europe.

results. Knowledge produced in transdisciplinary research will be used not only by practitioners, but by researchers as well. Therefore, the whole logic of dissemination as a linear process has to be abandoned and substituted by a **cumulative-circular approach of mutual learning**. Researchers should not regard collaboration with stakeholders as a mere “feedback mechanism”. Collaboration should be organised as an exchange of ideas between different, but equal parties (Smoliner et al. 2001: 263). This bears the risk of having to compromise in order to get results. Those at the top of the hierarchy must not be in a position to dictate their view, but should coordinate and centralize joint decision making. This bears the risk of having to accommodate very different positions and to create incoherence which might be a hard, exhausting process (Hollaender/Leroy 2001: 228).

The cooperation of partners from different backgrounds always bears conflicts (Thompson Klein 2001: 110). The bigger the differences, the greater the risk of inconsolably differing perspectives. And thus the risk of failing, of not being able to cooperate successfully. But there is another road to failure as well – and contemporary research often falls in this trap: the risk to fail because of the inability to produce relevant or – to use Helga Nowotny’s term – **“socially robust” knowledge** (Nowotny 2003). Transdisciplinary research is an attempt at avoiding this trap. It tries to integrate knowledge from different scientific and non-scientific backgrounds in order to become relevant again (Beinstein 2008; Novy 2008). This is an enormous task. It means having to accommodate various different languages, modi operandi and expectations. This can never be fully achieved. Transdisciplinary work constitutes a never-ending translation and negotiation process. **The need, to translate and negotiate meanings, methods and desired results is the single most important part of the transdisciplinary research process** (Häberli et al. 2001: 12). In order to be able to respect these features several communication and management strategies should be respected:

- Enough time and space has to be devoted to the establishment of a **common language or adequate translation techniques**. As currently there exists no “transdisciplinary metalanguage” this process might result in a pragmatic project-specific pidgin-English (Thompson Klein 2001: 109). An alternative to a unique and universal language, a modern Latin of the educated, is the proliferation of techniques of translation. Translation is an attitude of bridging different context. Therefore, it is more than a mere language technique, but core to all approaches of mutual understanding between different actors, cultures and contexts. This in turn, is crucial to capture the proper logic of different dimensions of social exclusion.

- Transdisciplinary projects require **clear goal setting**, any “hidden agenda” has the potential to significantly disturb the process. **Transparency** is crucial for successful transdisciplinary cooperation. The task and responsibilities of each partner have to be made clear, everybody has to know what will be expected of him/her and what he/she can expect from others (Häberli et al. 2001: 12).
- Considerable time and space has to be reserved for the observation and management of **team-building** and **team processes**, as well as for **conflict management** (Karl-Trummer et al. 2007: 11). “Only a genuine team, which is more than a coincidental gathering of specialists, will achieve the new insights a transdisciplinary process can nurture” (Häberli et al. 2001: 12).
- The appointment of a (professional) **moderator** in order to facilitate team processes and conflict resolution and to act as a “bridge person” between the diverse interests and backgrounds is strongly recommended (Karl-Trummer et al. 2007: 11; Thompson Klein 2001: 110f).
- Careful attention should be paid to the continuous involvement of all partners. In order to attain this goal it must be made sure that everybody profits from the project. The interests of all involved parties have to be taken into account (Häberli et al. 2001: 16). It is important to choose adequate communication strategies, via conventional media, **dialogue fora** and platforms for **joint learning** or other means of dissemination of new knowledge.

To finalize this short introduction to transdisciplinarity as a new technique of knowledge production, we want to remember an outstanding intellectual whose main objective was the socialisation of knowledge: Antonio Gramsci, a left intellectual from Italy who argued in favour of an **organic relationship between intellectuals and ordinary people** (“the masses”). He insisted on the importance of diffusing existing knowledge – producing social innovations - which might be more useful than new inventions and the creation of new concepts, even of progressive content (Gramsci 1971; 1991ff.).

## 5. Bibliography

- Beinstein, Barbara (2008): Transdisziplinarität. In. [http://www.pfz.at/index.php?Art\\_ID=600](http://www.pfz.at/index.php?Art_ID=600), 02.06.2008.
- Freire, Paulo (2004): Pedagogia do oprimido. São Paulo: Paz e Terra S/A, 38. Aufl.
- Gramsci, Antonio (1971): Selections from the Prison Notebooks. Edited and translated by Qu. Hoare and G. N. Smith. London: Lawrence & Wishart.

- Gramsci, Antonio (1991ff.): Gefängnishefte. Hamburg: Argument.
- Häberli, Rudolf/Bill, Alain/Grossenbacher-Mansuy, Walter/Thompson Klein, Julie/Scholz, Roland W./Welti, Myrtha (2001): Synthesis. In: Thompson Klein, Julie/Grossenbacher-Mansuy, Walter/Häberli, Rudolf/Bill, Alain/Scholz, Roland W./Welti, Myrtha (Hg.): Transdisciplinarity - Joint Problem Solving among Science, Technology, and Society. Basel: Birkhäuser, 6-22.
- Hollaender, Kirsten/Leroy, Pieter (2001): Reflections on the Interactive Sessions - From Scepticism to Good Practices. In: Thompson Klein, Julie/Grossenbacher-Mansuy, Walter/Häberli, Rudolf/Bill, Alain/Scholz, Roland W./Welti, Myrtha (Hg.): Transdisciplinarity - Joint Problem Solving among Science, Technology, and Society. Basel: Birkhäuser, 217-235.
- Karl-Trummer, Ursula/Novak-Zezula, Sonja/Schmied, Hermann (2007): Projektmanagement im transdisziplinären Kontext - Ein Manual zur Förderung der Lust am transdisziplinären Arbeiten. Wien.
- Mittelstraß, Jürgen (2005): Methodische Transdisziplinarität. In: Technikfolgenabschätzung. Theorie und Praxis 14 (2), 18-23.
- Moulaert, Frank/Jessop, Bob (2006): Thematic Synthesis Paper 1 - Agency, Structure, Institutions, Discourse (ASID) In: DEMOLOGOS-Discussion Paper. Newcastle: GURU - University of Newcastle upon Tyne.
- Novy, Andreas (2008): Twofold Dialogue - On the didactics of the 4th Austrian Conference on Development. In: <[http://www.pfz.at/index.php?Art\\_ID=613](http://www.pfz.at/index.php?Art_ID=613)>, 02.06.2008.
- Novy, Andreas/Lengauer, Lukas/Trippel, Michaela (2006): Thematic Synthesis Paper 6: Development. Demologos Discussion Paper.
- Nowotny, Herta (2003): Re-thinking Science: From Reliable Knowledge to Socially Robust Knowledge. In: Lepenies, Wolf (Hg.): Entangled Histories and Negotiated Universals. Frankfurt: Campus, 14- 31.
- Smoliner, Christian/Häberli, Rudolf/Welti, Myrtha (2001): Mainstreaming Transdisciplinarity - A Research-Political Campaign. In: Thompson Klein, Julie/Grossenbacher-Mansuy, Walter/Häberli, Rudolf/Bill, Alain/Scholz, Roland W./Welti, Myrtha (Hg.): Transdisciplinarity - Joint Problem Solving among Science, Technology, and Society. Basel: Birkhäuser, 263-271.
- Swyngedouw, Erik/Heynen, Nikolas C. (2003): Urban Political Ecology, Justice and the Politics of Scale. In: Antipode 35 (5), 898-918.
- Thompson Klein, Julie (2001): The Dialogue Sessions. In: Thompson Klein, Julie/Grossenbacher-Mansuy, Walter/Häberli, Rudolf/Bill, Alain/Scholz, Roland W./Welti, Myrtha (Hg.): Transdisciplinarity - Joint Problem Solving among Science, Technology, and Society. Basel: Birkhäuser, 103-116.



Institut für Regional- und Umweltwirtschaft  
Wirtschaftsuniversität Wien  
Institutsvorstand : ao.Univ.Prof. Dr. Franz Tödting  
Nordbergstraße 15  
A-1090 Wien, Austria  
Tel.: +43-1-31336/4777 Fax: +43-1-31336/705 E-Mail: ruw@wu-wien.ac.at  
<http://www.wu-wien.ac.at/ruw>