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Promoting “co-operation paradigm” for gendering the universities and science organizations. A built-in reflective practice model of real transformation to achieve gender equality in science

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## **Introduction**

Reviewing the impressive body of knowledge accumulated on the issue of women under-representation in science we may observe, based on the facts, (*She Figures*, 2013), that *there is no evidence of spontaneous reduction of gender inequality over time*. That is why it remains to ask (once) again on the causes of this de facto situation so as many talks about it do: “*why so few, why so low, why so slow?*” But an important step could be done through *action aiming at exploring the road from ‘WHY’ to ‘HOW’* can we bring more women in science as well as in science management, leading positions in research bodies and universities. Briefly these series of questions could be synthesized in one: *how can the universities and research institutions practice structural change in order to become a friendlier environment for the underrepresented gender?*

In spite of relevant research findings on these issues, a brief critical review of some of the existing endeavors on structural transformation to achieve gender equality in universities and research organizations makes clear that the tribute paid to obsolete visions is still high and that many times they remain rooted in unproductive approaches. Sometimes things seem to be taken from one and the same (old but in the same time very actual)

picture known since the beginning of the research of the issue of women and science, women in universities and research institutions, women on decision-making boards etc.

Our paper addresses the issue of organizational transformation aiming at promoting gender equality in universities and research organizations. It is based on the reflective practice of real structural changes introduced in our university ("Alexandru Ioan Cuza" University of Iasi, the oldest modern university from Romania) within the framework of the European Project STAGES as well as on a meta-analysis of some relevant studies about strategies for achieving gender equality in science. The research followed 4 steps:

1) Firstly, built on reflective practice a new structural change strategy is defined under the title *Fixing the transformative and formative praxis*. Its main orientation is given by "*Focus on creating new organizational structures and practices (transformative praxis) and by this process developing the participants' competences for knowing and acting to promote gender equality in science (formative praxis)*". Illustrated by concrete innovative actions, this new perspective for approaching gender equality in science, with focus on actual practice of structural change in universities, is proposed in addition to the known perspectives: *fixing the women, fixing the organisations, and fixing the knowledge production*.

2) In a second step, the analysis was deepened by references to *the sociological paradigms of structural change*. So as the author found in a previous meta-analysis of sociological literature on organizational change, a significant opposition between two paradigms, namely the "conflict paradigm" and the "cooperation paradigm", could be identified. The conflict paradigm is based on the assumption that *there is no change without conflicts*. Therefore, its focus is on *the conflicts due to divergences of interests and the actors are understood as combatants*. The key metaphors in the discourse are "fight", "struggles", "advancements", "resistances" etc. On the contrary, the cooperation paradigm maintains that *no sustainable change is possible without cooperation*. Its focus is thus on *the convergence of interests and the actors are seen as partners*. The key words in the discourse are "inter-action", "cooperation", "participation", "building together" etc.

3) In the third step, such findings are used to analyse contributions on structural change to achieve gender equality in science. Application showed that the opposition between the two paradigms is also central in this field and its main assumptions influence the theoretical and methodological bases of practical strategies. Moreover, the past dominance of the conflict paradigm allowed only small progress in improving women's situation and triggered negative reactions. This is the reason why a progressive shift toward the cooperation paradigm occurred last years.

4) As a last step, this approach will be highlighted as opening a way to search the assumptions of strategic orientations of the actors in real situations (like the agents involved in actual structural changes, the participants in debate on gender equality in science or the partners in joint projects on these topics).

A short case study will be presented to illustrate the possibility for further "instrumentalisation" of these ideas.

Making such a topography of the discursive-performative positions in the field of gender in science study, we aimed to refined arguments for situating our built-in reflective practice model of structural change for promoting gender equality in science – i.e. *Fixing the transformative and formative praxis* - in the zone benchmarked by “the cooperation paradigm”.

## 1. Fixing the transformative and formative praxis

The approach presented in this paper was developed from the reflective practice of real structural changes at the “Alexandru Ioan Cuza” University of Iasi (UAIC), Romania, during the first two years implementation of STAGES project and within some other previous projects on gender and science. Based on these practical and reflective experiences a new strategy of structural transformation was defined under the title *Fixing the transformative and formative praxis*.

For making explicit the concept, we specify that:

- PRAXIS means: Our organizational practice including more than 40 specific actions oriented and integrated by the objectives of structural change as well as the reflection/learning based on this practice (i. e. reflective practice)<sup>1</sup>.
- TRANSFORMATIVE refers at real innovative changes in the organizational structures and practices.
- FORMATIVE refers at the reflective effects of practical actions upon the capacity of the participative agents to understand, evaluate, take position and activate on gender equality issues.

So, the main orientation of the TRANSFORMATIVE AND FORMATIVE PRAXIS is given by: *Focus on creating new or ganizational structures and practices (transformative praxis) and by this process developing the participants’ competences for knowing and acting to promote gender equality in science (formative praxis)* (Balahur, 2013)

Concerning the *Transformative praxis*, we could refer to the real structural changes produced at the UAIC on the period 2012-2014 through the STAGES project actions, namely:

- Setting up new organizational structures like: UAIC Centre for Gender Equality in Science; UAIC Network of Women in Academia and Research; UAIC Interdisciplinary Research Group on Gender Equality in Science; UAIC Multi Media Communications and PR Campaigns Lab.
- Setting up new organizational practices like: Initiating annual public events as “Women’s Researchers Day”; “Women’s Excellence Awards”; “UAIC Profiles of Women in Science” (films production): Training modules on gender equality in science for HR department

staff, for managers and administrative staff, for academic and research staff, for young researchers: Mentoring programmes for young researchers ( “Early career researchers day”); Info services: providing information on work-life balance legal arrangement and childcare services; Introduction of the gender equality in science theme in PhD research studies of the UAIC’s Doctoral School; Communication and PR campaigns through the UAIC-STAGES Website and partnerships with national, regional and local mass-media etc.

Regarding the *Formative praxis* we could mention that its main characteristic is to be an *Integrative strategy*, that is: *Integrating Action, Research, Communication and Innovation in appropriated forms of participative practice in order to increase the gender awareness in the community.*

1 The actions are presented in “Timeline of the STAGES project activities at the UAIC” (website [www.stages.csmcd.ro](http://www.stages.csmcd.ro)).

Therefore, *Fixing the transformative and formative praxis* is a complex, multiple-layer model that focuses on the following components:

- *Action*: Focus on actions as a transformative practice involving the whole organization: participatory and integrative approach
- *Research*: Focus on knowledge produced by action (action research); active knowing through research and learning from practice: knowledge production based on praxis
- *Communication*: Focus on active participation (participatory action research) and communication (communicative action): communicative practice
- *Innovation*: Focus on creating new organizational structures and practices (transformative praxis) and by this process developing competences for knowing and acting to promote gender equality in science (formative praxis).

Briefly, the basic assumption of this orientation is a two-fold process: *Involving the whole academic and research community in the transformative practice and this way, by mutual learning and organizational learning, developing proactive attitude towards gender equality in science.*

To show the participative character of this strategy it could be mentioned that more than 1000 academic, research and managerial staff attended the actions in first two years, and over 120 persons were actively involved as speakers, organizers, collaborators or had other direct contributions at the actions, research and communication praxis. At the same time over 6500 visitors have watched our activities and events on the special website. Other indicators are also measures for intensity of attendance.

Grounded in this direct experience (as “Lesson learned”) we concluded that *Fixing the transformative and formative praxis* could be a new perspective for approaching gender equality in science, with focus on real structural changes in universities and research institutions. Thus, at the previous known perspectives, namely:

- *Fixing the women perspective*

- *Fixing the organizations perspective*
  - *Fixing the knowledge production perspective*
- we consider that it is possible to be added up this new one:
- *Fixing the transformative and formative praxis perspective.*

Some arguments in supporting our proposal are provided in the following analysis.

## 2. On sociological paradigms of structural change

Trying to deepen our understanding of the reflective praxis, we have formulated such research questions:

- *What is the paradigm of organizational change which provides the ground for the concept of structural change strategies to achieve gender equality in science?*
- *What are the roles of research, communication and evaluation within these strategies?*
- *What are the theoretical and methodological limits of the current approaches?*

To answer these questions we firstly refer to the *Sociological paradigms of structural change*. In this respect, in a previous analysis we found that in the sociological literature on organizational change two main paradigms could be identified as: *the “conflict paradigm” vs. the “cooperation paradigm”* (Balahur, 2011).

We use the term “paradigm” in its sociological sense of an identifiable pattern for understanding, approaching and solving a theoretical and/or practical problem (in this case, the change process).

By their content, the two patterns for understanding the change are in opposition.

- The conflict paradigm is based on the assumption that *there is no change without conflicts*. Therefore, its focus is on *the conflicts due to divergences of interests* and the *actors are understood as combatants*. The key metaphors in the discourse are “fight”, “struggles”, “advancements”, “resistances” etc.
- On the contrary, the cooperation paradigm maintains that *no sustainable change is possible without cooperation*. Its focus is thus on the *convergence of interests* and the *actors are seen as partners*. The key words in the discourse are “inter-action”, “cooperation”, “participation”, “building together” etc.

In the table below we synthetize the opposition of the two paradigms by some principal dimensions like: 1) *Main assumption*; 2) *Main focus /central topics*; 3) *The way of considering the strategies and actors*; 4) *The key-words in the discourse on structural change*.

	<i>“Conflict paradigm”</i>	<i>“Cooperation paradigm”</i>
Main assumption	<i>“No conflict, no change”</i>	<i>“No sustainable change”</i>

		<i>without cooperation</i>
Main focus on	Conflicts due to <i>divergences of interests</i> (related to access to resources, power positions, authority's advantages etc.)	Cooperation based on <i>convergences of interests</i> , common projects, mutual understanding, targeted agreement, equity in resources distribution etc.
Strategies and actors	<i>Fighting strategies</i> : win or lose Actors as combatants/ antagonists	<i>Collaborative strategies</i> : learning to build together Actors as partners/ equal protagonists
Script/metaphors/ key words of the change discourse	<i>"Battlefield chronicle"</i> : pro & contra: dominants vs. victims, enemies vs. allies, conquers and resistances, obstacles and advantages etc.	<i>Building process narrative</i> : jointly assumed project, coordinated efforts, common involvement, active participation, co-responsibility for results

Table 1: The "Conflict paradigm" vs. the "cooperation paradigm" in Sociology of organizational change (Source: Balahur, 2011)

Now the next question is: *Which one of these paradigms is more appropriate for promoting structural changes to achieve gender equality in science?*

### **3. Conflict vs. cooperation in structural change to achieve gender equality in science**

Trying to answer this question we have analyzed the literature on gender and science from the last 2 decades in order to identify its basic assumptions related to the two different paradigms.

3.1 For a preliminary analysis of the influence (or impact) of the "Conflict paradigm" in the literature on Gender and science we considered several representative studies and projects between 1995-2010. In the most relevant bibliography, we have identified, by content analysis, some defining characteristics indicated by the key-words used to describe: 1) *Facts and interpretations*; 2) *Challenges and strategies for women promotion*; and 3) *Discourse type*, respectively. (see the table below)

<i>Facts and interpretations: Underrepresentation of women in science</i>	<i>Challenges and strategies for women promotion</i>	<i>Discourse type (script and metaphors/key words)</i>
<ul style="list-style-type: none"> <li>• <i>Male domination</i> (“men’s world”)</li> <li>• <i>Exclusion</i> of women (out of “men’s club”)</li> <li>• <i>Power reproduction</i>: “Self-cloning of men’s supremacy” (“sameness” relationships).</li> <li>• Institutional <i>obstacles</i> to women advancement</li> <li>• Direct and indirect <i>gender discrimination</i> and its perpetuation</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Empowerment</i> of women</li> <li>• <i>Positive actions</i> (women networks, gender training, role models promotion)</li> <li>• <i>Fight for rights, struggle for recognition</i>: social justice, equal opportunities, equity</li> <li>• <i>Victories</i>: Gender quotas or targets, work-life balance measures, gender programs</li> <li>• <i>Fight for access</i> to top positions, scientific boards, research resources</li> </ul>	<ul style="list-style-type: none"> <li>• Script: recording <i>conflicts</i> (“no conflict, no change”).</li> <li>• Assumption: Any progress by ongoing <i>struggle</i>.</li> <li>• Discourse as a “<i>battlefield chronicle</i>”: to <i>combat</i> inequalities; to <i>fight</i> for nondiscrimination; to <i>destroy the obstacles</i>.</li> <li>• Metaphors: <i>adverse parties: enemies vs. allies; successes/advancements vs. failures/resistances</i>.</li> </ul>

Table 2: Key words for “Conflict paradigm” in promoting gender equality in science. Resource: Bibliography on Gender in science 1995-2010.

In order to highlight the findings of the content analysis, we underlined the key-words that are typical for such a discourse (as for example: “domination”, “exclusion”, “power reproduction”, “discrimination”, “empowerment”, “fight for rights”, “struggle for recognition”, “conflicts”, “advancements”, “resistances” etc.). Long time these terms were predominant in the discourse about the critical underrepresentation of women in science and about the measures needed to improve their situation. The code who gave significance to these key-words was obviously grounded on “the conflict paradigm”.

Concluding upon the performative character of such a discourse orientation we could correlate them with such effects (direct and perverse):

- \* Small progress in improving the women’s situation.
- \* Negative reactions (backlash).
- \* Rhetorical questions: “Why so few? Why so low? Why so slow?”

3.2 As concerns the presence of the other theoretical model - the “cooperation paradigm”- in the bibliography on Gender in science (studies and projects, after 2010), we have identified the following characteristics (considering the key words as being relevant for an analytical comparison):

<i>Facts and interpretations: Underrepresentation of women in science</i>	<i>Challenges and strategies for women promotion</i>	<i>Discourse type (script and metaphors/key words)</i>
<ul style="list-style-type: none"> <li>• Progress in women's representation in science (<i>She figures</i> 2012)</li> <li>• Focus on structural changes (FP7 Call, 2010)</li> <li>• Directions for <i>Structural Change in Research Institutions: Enhancing excellence, gender equality and efficiency in research and innovation</i> (EU, 2012)</li> <li>• Openness to new questions: "excellence without gender bias" (LERU, 2012);</li> <li>• Modernization of human resources management</li> </ul>	<ul style="list-style-type: none"> <li>• Conditions for structural changes: 1) knowing the institution; 2) getting top level support; 3) generating effective management practices, by ensuring gender expertise and by raising awareness (EU, 2012)</li> <li>• Recommendations for promoting gender equality management in science (<i>GenSet 2010, Vilnius Conference, 2013</i>)</li> <li>• Combining top-down and bottom-up initiatives (<i>Meta-analysis on gender and science research, 2012</i>)</li> <li>• <i>Fixing the Transformative and formative praxis</i> (Balahur, 2013)</li> </ul>	<ul style="list-style-type: none"> <li>• Script: stressing the need of <i>cooperation</i></li> <li>• Assumption: "no sustainable change without <i>cooperation</i>".</li> <li>• Discourse as a call for a <i>collaborative</i> project: <i>involving all the interested parties</i>; valuing gender <i>contribution</i>; setting up new gender <i>inclusive practices</i>; <i>participative action research</i>; <i>communicative action</i> in decision-making.</li> <li>• Keywords: <i>participation, construction, partnerships, collaborative action, common interest, mutual respect, joint responsibility.</i></li> </ul>

Table 3. Key words for "Cooperation paradigm" in promoting gender equality in science. Resource: Bibliography on Gender in science after 2010.

Like in the previous analysis, we also underline the key words that are typical for such an alternative discourse, i.e. "cooperation", "participation", "co-construction", "partnership", "collaborative action", "common interest", "mutual respect", "joint responsibility" etc.). Such terms have become predominant in the recent discourse about the women in science and in the analysis concerning the organizational conditions for real structural change to achieve gender equality. The code who gave significance to these new key-words belongs to the other pattern for understanding, approaching and solving the problem than the previous one, namely "the cooperation paradigm".

3.3. From this preliminary comparative analysis we can conclude that *an important shift in the basic understanding as well as in the theoretical orientation of policy and study*

*concerning structural change to promote gender equality in science took place in the last 5 years, namely: from the “conflict paradigm” to the “cooperation paradigm”.*

Now, the following question is: *Could we identify the influence of these paradigms in the concrete situations like the agents strategies in promoting gender equality in science or in the controversial arguments of the participants in a debate (for example in a scientific conference)?*

#### **4. How the assumptions of an adopted paradigm influence the real attitudes of change promoting agents?**

In a recent research we tried to see how the assumptions of an adopted paradigm influence the real agents' attitudes in concrete situations. To approach this issue, we have addressed a short questionnaire to the partners from a project consortium. One of our questions had the following content:

*“If you accept that the paradigms of organizational change could lastly be divided by this antinomy:*

*a. “conflict paradigm” (that is change based on fight for rights, struggle for power, conquering status/ top positions, destroying obstacles/ resistances etc.)*

*vs.*

*b. “cooperation paradigm” (that is change based on communication, collaborative action, mutual recognition, interested participation, mutual learning, strategic agreement etc.)*

*which one of the two do you consider to be predominant in your team's strategies? Please detail your argumentation”.*

Other questions concern the role of own research, communication and participative practices in their strategies for structural changes.

The answers received clearly indicate that those who are doing real structural changes in their universities and research institutions rely on the “cooperation paradigm”. At the same time, analyzing some documents concerning the activities of the team charged with monitoring, evaluation and accompanying research, we have found evident recurrent influences of the “conflict paradigm” (for instance: insistent request to be collected examples of “highlighting challenges and shortcomings”, “obstacles and resistances”, “*whose existence, weight and different forms are well established in literature*”, emphasis on “situations of conflict”, “obstacles”, “resistances”, “distribution of power”, “difficulties and shortcomings”, “negative dynamics”, “critical points” etc. as criteria for identifying the so-named “meaningful situations” etc.). By interpreting such data we found that significant differences in conceiving and approaching the main dimensions of strategy for structural changes – action, research, communication - could indeed be pointed out between those who work in the real world and try to do real changes in organizations (that is the “actors”) and those who monitor the “scenes” and talk about the actions (being only “spectators”). The first ones appear to be substantially oriented by the “cooperation paradigm”, while the others seem to be oriented in a much more degree by the “conflict paradigm”.

Based on these findings one could ask: *is it here a case of “paradigms’ incompatibility”?* If this is the case, what could be its apparent effects?

Our case study concluded that the differences are reflected in dissonant views about Actions, Research and Evaluation, according to the opposition between those who practice the change (“actors”) and those who talk about it (“spectators”), i.e., *insiders vs. outsiders in respect to real transformative praxis*. The partners who implement Actions Plans in their organizations are focused on how to do efficient actions for “structural change” in real settings, are concerned to involve the own research force of their universities (professors and PhD researchers in social sciences) in shaping and revising their strategies and consider the communication not only as an important tool for information and dissemination but also as a basic praxis component for increasing the gender awareness and forming new attitudes towards gender issues; *all these praxis-oriented attitudes request a large cooperation inside their organisations*. On the other side, the main orientation of the monitoring and evaluation team seems to be focused on the collecting information about “situation of conflicts”, “obstacles and resistances”, “challenges and shortcomings” etc., *“whose existence, weight and different forms are well established in literature”* (so as we quoted); therefore, *the influence of the “conflict paradigm” on such a “theory-driven approach” is explicitly significant*.

We suppose that similar situations often occur in practice, and productively stimulate reflection on practice. In fact, faced with situations like this we understood how important is to systematically investigate the paradigmatic assumptions of agents positions in order to promote cooperative strategies for structural change, or to develop a real dialogue on such topics in a workshop or conference, or to harmonize the participants conceptions and attitudes in any situation of common action concerning promotion of gender equality in science.

## Conclusions

We started from a conceptual articulation of a built-in reflective practice model of strategy for structural change to promote gender equality in science, named *Fixing the transformative and formative praxis*. We highlighted that its main orientation is given by focus on “participation”, “communication”, “cooperation”, “participative action research”. Aiming to clarify the relevance of these praxis dimensions, we considered them from the perspective open by an analysis on the sociological paradigms of structural change, with references at two opposite models, “the conflict paradigm” and “the cooperation paradigm”, respectively. By interpreting the content of these paradigms, we show that the main assumptions, ways of approaching the topics and key-words in the characteristic discourse could be also found in the models of understanding and approaching the theoretical and practical issues of structural change for promoting gender equality in science. Making such a topography of the discursive-performative positions in the field of gender in science study, we aimed to refined arguments for situating our built-in reflective practice model of structural change for promoting gender equality in science – i.e. *Fixing*

*the transformative and formative praxis* - in the zone benchmarked by “the cooperation paradigm”.

At the same time, by presenting a recent case study, we wanted to draw the attention on how important is to systematically investigate the paradigmatic assumptions of agents positions in order to promote cooperative strategies for structural change, or to develop a real dialogue on such topics in a workshop or conference, or to harmonize the participants conceptions and attitudes in any situation of common action concerning promotion of gender equality in science. In this respect, we intent to further instrumentalise our ideas and now are working at a questionnaire for assessing the dissonance induced by such differences in assumptions that could be related at the opposition between “the conflict paradigm” vs “the cooperation paradigm”.

By considering that this preliminary study is only a draft for a further research, we are conscious about the limits of these considerations so that we mention some of our assumed research tasks for the future:

- To provide new arguments for our model of structural change: *Fixing the transformative and formative praxis*;
- To further articulate the theoretical and methodological grounds for the “*cooperation paradigm*” in structural change for gender equality in science, stressing especially on the specific of the “*academic community ethos*”;
- To identify new critical aspects of “*incompatibility paradigms*” and their direct and perverse effects in different studies and research.

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