"Otherness" of women engineers' in organizational cultures constructed by men

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2.3.1 INTRODUCTION

The number of women in the fields that involve and deal with Engineering & Technology (E&T) has always been smaller than men's. Some feminists explain this phenomenon by pointing out the manner in which the terminologies, methodologies and relationships between dominant majority group (Euro men) and "different"/"other" social identity group (Euro women) of these research fields have been recognized as central issues affecting the advancement, legitimacy and survival of organizations themselves. This strand of feminist research has underlined the masculine aspect of technology socially constructed on the exclusion of women from engineering and technological domains. Soon enough this analysis has become a mainstream foundation for the strategies that attempt to transform organizational cultures of these fields so as to make them friendlier to women.

The aim of this paper is seeking to understand how the "other" is coded as female and constructed within the context of hierarchical, bureaucratic relations, standardization, etc. of patriarchy under conditions of post modernity and Europeanization /globalization. What is now before us nationally and full
PROMETEA project partners' states panorama, is the deep, profoundly perturbed and perturbing question of woman researcher as "others" in E&T research organizations.

We are sure that the articulation of this problem in the E&T research field in academic, public and industrial settings is the most productive way to adapt "otherness" in the new large organizational landscape.

2.3.2.1 SELF AND "OTHERS" OF ACADEMIC WOMEN

Academic women belong to the professional group that produces new knowledge and/or transmits it to the public. Pursuit of knowledge and a high potential of creativity have to be among the main traits of both women and men interested in scientific activity. However, science is traditionally considered a male activity because of the right and access to knowledge that is power – *scientia potestas est* – and women are traditionally excluded from the possession of power.

Thus, a woman enters an academic community fully burdened by prejudice against a woman professional in general and a woman scientist in particular. Her gender is used to doubt her ability to participate in the important spheres of professional activity, and her professional activity is used to doubt her ability to be a good wife and mother (West and Zimmerman 1991). Therefore, a woman has to counter the devaluation of her femininity and professional abilities, and her successful scientific career requires a high flexibility of self-identity. Moreover E&T research culture for woman "travelers in a male world" (Marshall, 1984) has been strongly tied to forms of "hegemonic masculinity" (Connell, 1995) and "masculine ethic" is correlated with description of patriarchal work place, privileging of typically "masculine" values and ethos over feminine ones in ways that women and men alike seem unsatisfied with.

In the frame of radical pluralism as a social theory of postmodernism, a concept of identity is considered the expression of self/other relation.

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Generally, Self is defined as the individual's expression of his/her uniqueness that structures his/her behavior to a considerable degree, and presupposes the simultaneous acknowledgement of the individual's belonging to the group and/or society. The main source of self-identity building is the individual's life history – a process affected by the individual's participation in the social structure of society. In this case, identity can be considered as developed through a process of self-reflection that is generated originally from the outside. Theories of recognition consider identity formation an open and ongoing dialogue and struggle with significant others (Taylor 1992). The dialogic theory of M. M. Bakhtin argues that, "the self is an embodied entity situated in concrete time and space, and is constituted in and through its dialogical relations with others and the world at large" (Gardiner and Bell 1998).

A. Zvinkiene carried out sociological research on identity by according
to such a self / other relation concept, consists of two parts. The first one is devoted to the investigation of self, and the second one to the investigation of attitudes of others, because the public/professional career could be considered as a sort of struggle for recognition through an open/inner dialogue with significant others. She pointed out the importance that “entrance in the academic community depends upon many individual moment rather than structural ones as, for instance, a favorable scientific situation, good luck with a professor, department, etc., that stimulate and support an interest to the definite scientific problem, and finally, personal motivation”.

Surprising, but from mentioned above research, professional occupation usually has a profound impact on personality although “national” traces remain at least in the appearance of academic women. Thus, a male scholar from Switzerland stresses the elegance of women from Central and East Europe, especially Russians, and even pays attention to their very short skirts in comparison with Western academic women. A Lithuanian female scholar stresses differences in appearance as well; however, this may be defined as an inclination to underline pseudo-femininity with cosmetics, spangles etc., at least in comparison with Scandinavian academic women.

Young and middle-aged Lithuanian academic men usually try to uphold the opinion that academic women do not have to be unlike an average woman, although they prefer all intellectual workers to be distinguished by their erudition, intellect, and to some extent by competency. Often it is argued that woman’s intellect does not interfere with her beauty and academic activity is quite compatible with femininity and so-called woman’s nature. At the same time, it is supposed that “the main characteristic of a woman has to be beauty and even deception, the main characteristic of a woman scholar has to be truth and fairness; therefore, a woman scholar loses charm, attractiveness, beauty because it is impossible to have both accomplishments, beauty and science, in the same way” (male, 45, Dr., philosopher, Lithuania).

It seems middle age at least for Lithuanian males is a demarcation line between more conservative and egalitarian attitudes toward academic women. This could be related to Lithuania’s social context where equality between women and men has recently been reintroduced in the state’s ideology, although with age male attitudes towards women become in fact more conservative. Thus, “Some time ago I considered them (academic women) as those who compensate female failures by any moments of career, but today, I don’t know” (male, 64, sociologist, Lithuania).

A response to the conservative, and to some extent humiliating, characteristics of an academic woman, compared to an average woman, from older or coeval colleagues has to be considered not as an excuse but rather as a confirmation of the woman’s choice. Swiss and Lithuanian women alike have noted that academic women are confronted with some specific conditions: the authority of “woman’s voice” in the first place. Academic women are definitely isolated from male colleagues and from people who have not much educational background as well. Both usually considered an academic woman as being slightly handicapped or at least very complicated. At the same time, it seems a present young generation of women scholars has to be less confronted with conservative attitudes regarding a woman’s nature from her male-colleagues, at least at the beginning of their career.

Usually the majority of men see the situation in the public sphere, in our case science, as non-problematic from a gender equality perspective. In general, Western males are usually more “politically correct”, to the same extent more practical and less emotional in their definitions of academic women than their colleagues from the “East”. Western style of conservatism is hidden enough.

2.3.2.2 WOMAN AS ‘OTHERNESS’ IN ENGINEERING & TECHNOLOGY RESEARCH ORGANIZATIONS

The specter of ‘otherness’ has been haunting Western organizational landscapes for a long time. Relationships between dominant majority groups (typically Euro-American/Western men) and ‘different’ or ‘other’ social identity groups (e.g. women, Latinos Americans, gays, etc.) have been recognized as central issues affecting the advancement, legitimacy and survival of organizations themselves. These questions of otherness have further intensified as national boundaries become more permeable and workplaces are swamped by the tides of diversity and cosmopolitanism. In sum, the currents of globalization have altered the contours of difference and otherness, simultaneously rendering them more immediate, more exciting and profoundly more problematic.

One thing is for sure – under conditions of post modernity and globalization, otherness looms very much at large: an integral part of everyday organizational culture, impossible to ignore and constantly holding the potential for conflict, creativity and disruption. Arguing that these new conditions require
alternative conceptual frameworks, this chapter uses 'otherness' as a theoretical lens to understand the contemporary dynamics of difference and identity in organizational culture.

Most serious discussions of 'otherness' in organizations have been conducted within different strands of feminist theory, explicitly seeking to understand how the 'other' is coded as female and constructed within the context of hierarchical and bureaucratic relations of patriarchy (Mills 1988; Osen 1997). In essence, many feminists argue that core organizational principles (e.g., hierarchy, standardization, etc.) are constantly involved in constituting and reproducing woman as a distinct and subordinate 'other' with significant implications for male and female identities in diverse organizational spheres (Ferguson 1984; Mills 1988). The focus within this genre of feminism is more on 'the inscription of woman as other' in the language and discourse (Mascia-Lees 1989) organizations, workplaces and other areas of institutional life.

In analyzing the discursive construction of woman as 'other', writers like Smith (1987) call for a close examination of the 'relationships of ruling' that make this possible. As Smith points out, these discursive formations of woman 'have been either produced by men or controlled by them. In so far women's work and experience have been entered into it, it has been on terms decided by men and because it has been approved by men.' In this process, biological characteristics, such as appearance and maternity (Martin 1992), and called female or 'feminine' social traits, such as collaboration and nurturing skills, become systematic liabilities in the predominantly male world of institutional workplaces (Maier 1997).

While focusing predominantly on woman as 'other', some organization research descriptions remain fully aware of the intersections between woman and multiple categories of otherness, notably race, ethnicity and sexual preference. Mighty's (1997) exploration of the dynamics whereby race, foreignness and womanhood come together to produce a 'triple jeopardy' of identity in professional organizations is a case in point. More, understanding woman the 'other' in organizations offers many insights into the production of different forms of 'otherness' in institutional work spheres. Increasingly, however, two material and intellectual currents convincingly argue for the need to reassess contemporary genres of Western feminism, and to examine questions of woman researcher as 'others' in E&T research organizations on full PROMETEA project partners' states panorama, referred to europeazation / globalization?

2.3.3 RESEARCH METHODOLOGY

Sample. The data were collected through structured interviews and focus groups with women and men engineers in two Lithuanian Universities:
raise a question if similar researches about the gender in engineering/technological spheres' effects, carried out in the Western states, statistical generalizations and theoretical conclusions can be without any limitations be generalized for Lithuania and similar post totalitarian countries?

While searching for the answer to this question 6 countries (Finland, Chile, UK, Slovakia, Russia, and Sweden) comparative analysis of the project PROMETEA reports was carried out.

Data collection was conducted on three levels:

- Scientific literature review and documents analysis with the aim to study theoretical conceptions and performed researches on gender specificity in organizational cultures and expression of concept "otherness";
- Qualitative data collected by the PROMETEA project on specific interview questions and focus groups;
- Qualitative data from the narratives of top women researchers’ career paths' histories or concrete situations in which certain experiences have been had;
- Comparative analysis of PROMETEA National Reports. The aim was to compare different countries views on woman researcher as "others" in E&T research.

Findings. Even though gender is an inborn difference, however, in processes of socialization it turns into a social problem. Discrimination phenomena occur where a socially weaker individual often loses equal opportunities in one’s life and professional activities; often an individual may be indicated as "otherness".

Investigation of "otherness" and gender is related with the world of technology. The world of technology, as a part of men’s world, is highlighted in works of many authors. A number of feminists, technology analysts (Gunnarsson, Trojer 1994) state that spontaneity, sincerity, aesthetical nature are linked with womanhood and opposed to technologies. In western world, dichotomy of culture and nature are expressed by oppositions: arguments versus passions and emotions; objectivity versus subjectivity; mind versus body and physical substance; abstractness versus particularity; publicity versus privacy” (Harding, 1986, p. 661). In mentioned dichotomies, the second components are associated with nature. Manhood, like science, was identified with culture and womanhood – with nature. Since the time of scientific revolution, attitude towards nature as “alma mater” was changed by a formidable nature and the idea of control and management of dichotomy components (passions and emotions, subjectivity, body and physical substance, particularity, privacy) identified with nature. Thus, opposition of culture and nature builds our actions and understanding; also, it predetermines identification of technology with manhood and nomination of womanhood by “otherness” in the world of technologies. Functioning and application of modern technologies has not essentially changed the theories linked with these dichotomies.

The research underlines several categories of statements, which show woman researcher as “other” in E&T organizations. The main reasons why do so little women have leading positions in E&T organizations are:

1. A stereotype attitude towards unequal abilities of women and men in E&T fields.
2. Patriarchal traditions and attitude exist in our society: women are completely responsible for taking care of little children and housekeeping.
3. Women have to work twice, tripled more and harder in order to prove their competence. Unequal distribution of tasks accompanied by declared “woman-like” and “man-like” possibilities.
4. The obstacle for women career the lack of possibilities to be mobile.
5. The problem related to finances is also typical to the researched women.

Stereotypes and attitudes. The answers highlights that stereotype dominate in technologies and engineering. It is obvious that the opinion which has always been prevailing about dominance of men in engineering and technology sciences remains status quo, and women have not sought career in this area. However, historical development shows that, for example, in 1950s and 1960s, women occupied almost half of positions of system analysts and programmers, and in 1980s – only one fifth.

Despite quite big women’s role in primary stage of technologies’ development, it is obvious that there was little of gender equality in history of technologies’ development. Sources of modern technologies lie in army, its needs and military purposes (Lee 2003; Edwards 1990; Moreau 1984; Annerstedt et al. 1970). Technologies were opposed to women, and description of technologies itself obtained the base of manhood. Due to this, it is constantly underlined that men predominate in technologies, a stereotype of women having no knowledge of technologies occurs. Identification of technologies with manhood is not a feature of gender difference but it is a historical and cultural construct of genders.

Empirical research of Lithuanian scientists shows that gender stereotypes (as it may be expected – to the prejudice of women) are strongly pronounced already in population of senior pupils, pedagogues (Merkys, Purvaneckiene, Ruskus, Kazlauskaitė, Sialauskiene, 2001). Stereotyped thinking that discriminates women moves to a liberal and democratic environment – university. Research by Saparniene (2002) has shown that Lithuanian students’ attitude towards male and female students’ computer literacy bears an impact of stereotypes. It is inclined to attribute the higher competences, possibilities to be a good programmer, computer repairer to male students, whereas women are projected as thorough performers of routine technical jobs.
Gender equality writings call for acute awareness of the wider backdrop against which “women” have been systematically constituted as other. Women researchers do receive lower wages, are promoted less often, have not so wide and powerful networking, are sometimes exposed to sexual abuse, and have more family responsibilities. Without denying that such is the case, we agree that gender is the result of an active process, gender is something objective, which has been exposed to a process of distortion that exaggerates the difference (Reskin & Padavic, 1994). Instead gender in sense of ideas about men, women and the relations between them through social and research practices, indeed constructs engineer (men and women) in technological scientific environment. This socialization process is ongoing all social life when we participate in research organizations and other contexts. We support dominant approach to treat gender as a variable to be studied in relation to other variables. Some great researchers women identify themselves with the traditional mother, experience a special sort of individuation process and become or are defined as care-oriented, empathetic, relation-oriented, assume the main responsibility for their family/household, develop a mother-orientation as a primary identity, are valued primarily on a basis of feminine attractiveness, perceive themselves as ‘women’ in the men’s land, are discriminated at workplace by people who also define them as ‘women’, are subordinated to men and are confined by themselves and by others within family role. This strategy nowadays is playing as a compensatory mechanism in so concurrent, competitive research environment. Otherwise, these hardly apply to all or even to most women. Some more vital, initiative, creative, leading women tend to be more masculine-identified than feminine, i.e. not all women develop highly feminine orientations of the caring type, as not all give birth to babies or those who share at least part time of the work in the family with their husbands/partners.

Nonetheless, we prefer more useful to try understanding gender as an organizing process than to refer to it as a fixed system, like patriarchy, stereotyping or distorting changing classification system. Otherness in the gender context as a number of dynamic, ambiguous and varying phenomena rather than abstract, static and unequivocal ones. It is important to look critically at the use, the meaning, the research E&T organization and the effects of distinctions between women and men, the feminine and masculine, and at the relations that precede and succeed them. The repackageing of older categories of otherness, initiation of newer ones, helps us the understanding otherness and mediating the formation of identity spaces in the new very quickly changing organizational and institutional research locations.

As it is considered, professional gender stereotypes manifest in society usually by tendentiously projecting women as representatives of the so-called “second-class” professions. These are relatively less paid, representing a lower social status, more modest opportunities for social mobility professions. Most often, these are the professions referred to service sphere, non-creative work of a performer (e.g. a secretary, cleaning-woman, shop assistant, waitress, nurse, kindergarten mistress, etc.). Whereas men are attributed with professions and positions endowed with prestigious force, status, power. This fact which, however, is empirically proved in Lithuania as well (Merks, Purvaneckien?, Ru?kus, Kazlauskait?, ?idlauskien?, 2001) hides a universal stereotype attitude that men operate more successfully in professional activities, they perform the roles requiring creativity, mind, and responsibility better than women. Whereas women seemingly are better performers of technical, routine as well as less responsible and socially less significant jobs. We can hypothetically state that gender stereotypes form unfavorable environment for socialization, provide preconditions for limitation of women’s professional career.

In our research the women reveal that stereotypes are very rooted in our society and to change stereotypes always is very difficult. They said, that “I like my job, I perfectly work both with hardware and software; even though sometimes I hear someone saying: ‘Is it interesting to you what you are investigating – this is men’s job’”. It is acknowledged that rooted stereotypes are hard to change “As we have already mentioned, existing stereotypes in society often are obstacles as well. When I gave my PhD dissertation to read to the opponent, he was surprised how a woman could write a work of such a big volume and even from the field of technologies where only men can express themselves, as it was understood from his remark”. The main obstacles for the career are insufficient women’s confidence and, naturally, stereotypical attitude which may be felt not directly but through the distribution of works, etc. The opinion has also been formed that the manager in the field of technologies should be a man. The women raising children told they would be very pleased if their superior employees and colleagues consider their conditions and assist them while organizing working hours in accordance with the current situation – if their child gets ill, to conduct their works at home or present them later, i.e. to apply a flexible schedule. The women who participated in the research were glad that somebody is concerned about their problems.

While analyzing the results achieved in other countries, similar deductions/attitudes have been noticed. For example, respondents from Chile also agreed that undergraduate women are discriminated. The described case: “Men, whether they are good or bad engineers are not asked to prove anything”. Respondents from the UK pointed out that there were overall more obstacles for women, including cultural barriers and stereotypes which define the types of roles and/or work which are more appropriate for women. There is a sense that women are stereotypically seen as either not career oriented, or when they
do get ahead, they are have to be “aggressive”. The Swedish situation showed that sex discrimination was also discussed as the informants had experiences of missing out on promotions when being on maternity leave. Respondents from Russia confirmed that the main barriers to career progression are stereotypes, which are peculiar to both women and men. There are complexes and stereotypes such as “Engineering is men’s business”, “Men are smarter than women”, “A man is a generator of ideas, a creator and a woman is a good executor”, etc. Women-researchers from Slovakia claimed that gender stereotypes are sustained through the belief that women benefit from positive discrimination, that they are ‘biologically’ and ‘culturally’ better at caring, and that partners’ careers are more important (cf. dual career management). Also lead to work segregation – HE women veered towards teaching careers or in BUS to certain kinds of managerial roles (Health and Safety in one case).

The Researched Focus Groups of Men answers highlight that men dominate in technologies, the stereotype of women as having less knowledge in technologies, endowed with “specific female” personal features generally is expressed. In the opinion of men “Even though it seems that there is no gender difference in E&T fields, however, personal features, nature sometimes influence technological career of women because, in technological sciences, there is a stereotype stating that “the strong” sex must predominate”.

After the birth of children, a woman can no longer spends long hours at work and her professional competences cease to develop. Some time later she finds herself lagging behind, while the man, her colleague, continues climbing the career ladder. Moreover, a successful scientific career abroad is available only when a person can travel a lot to work and learn from the well-known professors. It takes years to receive a permanent job offer.

Women sometimes are not able to give so much of them to this science because they, more than men, must take care of families, children. In the opinion of our researched women were observed: “I suppose that simply there is such attitude towards a woman as being more dedicated to one’s family; but in fact both men and women can successfully be involved in technological researches. We have a number of such examples. But it is highlighted that unequal pay for work exists: men earn more for the same work. Employer’s position for men’s sake is obvious”.

Patriarchal traditions, stereotypes and attitude exist in our society: women are completely responsible for taking care of little children and housekeeping, they are not so clever that a men, so they must earn less than men, they are “otherness”.

Qualification and competence. From the interview with Focus Groups of Women it is felt some disappointment in the attitude towards a woman as being less clever that a man: “Every person is different, however, men domi-
lot of efforts, much additional time are required in order to come back to a usual rhythm of work”.

Personal features. The education system, based on the male-dominated market model, is not adapted to women. It is very important that a person could fully dedicate oneself to scientific research and could find as much time as needed and whenever needed to do research. All the biggest laboratories of the world are open to scientists 24 hours a day. The scientific work itself is very interesting, however only a single woman can afford to be fully devoted to it.

While discussing with men about reasons blocking occupation of highest positions for women in engineering/technological fields, a personal features are highlighted. Men have the need in controlling, they are self-confident, dedicated to a possibility to control, and this is the expression of power and manliness which is distant to women. The men’s answers highlight:

1. There are more stress and responsibility in leading work, and “resistant” men are more suitable for that.
2. Thinking of both men and women differs. Thinking of men is more constructive, and women often get lost in complicated situations. Perhaps that is why we will not find any men working in a kindergarten; men are more leaders from their nature.
3. Women are more modest and often their particular features are not expressed; women do not express themselves; that is why more self-confident men naturally occupy highest positions.

Women agree that personal features of men are more suitable for leadership in E&T organizations “Men are rough, have more features characteristic to leaders. Their competence is higher, that is why they take the lead”.

Even Prof. Katarina Antanina Garmute from Kaunas, the author and co-author of a hundred and ten discoveries, mentioned that it is wiser of a woman to hide her intelligence when talking to men. “They tend to have a supporting and protective, sometimes even a little despising, attitude towards women. I have seen many men like this. There is nothing you can do about it. You simply tolerate, explained the scientist adding that if you have great knowledge and many ideas, usually you are bound to suffer and keep silent. K. A. Garmute shared her experience saying these words: “Women have to do everything twice or three times better. They have to prove and reprove themselves several times to make men believe them. Only after this has happened, a woman can work for results.”

Mobility. The woman who wanted to make a career in the academic sector said that the only obstacle for her career was the lack of possibilities to be mobile. The woman who wanted to be promoted in the industry sector named such obstacles as the impossibility to be mobile and to go on business trips having a family which made it difficult to seek a career. As the woman’s teaching load was big in the former position, she had little time for scientific research which is very important if a person wants to seek a scientist’s career.

Researchers from UK said: “It is important to note that being promoted was seen as dependent on more factors than just ability, determination, availability (i.e. for travel / mobility / long hours), being well networked or the attainment of specific career development goals such as a successful publications record, securing funding or attending conferences”. The interviewees from France put another opinion: “Both men and women can be mobile, but when you’re a woman, with children, it’s more difficult. In the actual mentality, woman may stay in the house. It’s not so easy for a woman to travel, and you’re asked as men are”. The situation of Swedish researchers proves that the requirements for mobility are more flexible – there is an understanding that parents who have small children should be allowed to take shorter trips.

Finance. The problem related to finances is also typical to the researched women. At present her working hours are longer and she earns more money. But the woman is rarely at home and it is not good for her family. The second researched woman is a docent and she earns enough money. As her son is planning to study in Vilnius, soon they will need more money since the living expenses are higher there. Due to her son’s studies the woman will have to work more and she will have less time for her scientific research work. A woman who wants to have special achievements in the sphere of technological sciences needs strong will, support and money. In the respondent’s opinion, at present women who are doing scientific research work in the sphere of technology do not get high salaries that is why they have to do extra work.

Problems related to finances are also topical to women-researchers in the focus group with female engineers. In order to earn more money, women increase the teaching load and participate in various projects. Consequently, they have less free time for themselves and their children. Women who had changed their career in the industry sector said: “As the women’s teaching load was big in the former workplace, they had little time for the scientific research which was very important if they wanted to seek a scientist’s career”. The women from Chile stated: “Research work takes for granted that I’m available 24/7, all year round”. Another problem concerns research academics in general, and Ph.D. students in particular, they are not well paid, they often end up putting off starting a family saying that research “is a highly demanding occupation with serious financial issues. Since we undertake doctoral degrees on the strength of grants and bursaries, things can get kind of harried sometimes. For example, I get a school-year scholarship only,
meaning that over the summer months (January and February) I have to manage on my own. I still have no pension or health coverage myself.”

Women-researchers in Sweden claimed that the focus group identified the difficulties with financing research and temporary positions and lack of security of employment as the main problems.

2.3.5 CONCLUSION AND PERSPECTIVES

Women self-"otherness", identity and power in the discourse of organizational culture highlighted the cultural mechanisms based on gendered assumptions and values that can create and perpetuate discriminatory practices on women academics in engineering and technology on the European research landscape. Organizational cultures in E&T research organizations (HE, BUS, GOV) are gendered because they are inequitable for women and men.

- The research underlines a stereotype attitude towards women researcher as “other” in E&T organizations. As it is considered, professional gender stereotypes and archetypes manifest in society usually by tenden
tiously projecting women as representatives of the so-called “second
class” professions suitable, but unfriendly, “chilly” for women. These are relatively less paid, representing a lower social status, more modest opportunities for social mobility professions. Whereas men are attributed with professions and positions endowed with prestigious control, status and power. This fact which, however, is empirically proved in Lithuania as well hides a universal stereotype attitude that men operate more successfully in professional activities, they perform the roles requiring creativity, mind, and responsibility better than women. Whereas women seemingly are better performers of technical, routine as well as less responsible and socially less significant jobs. We can hypothetically state that gender stereotypes form unfavorable environment for socialization, anti-feminization of work place and different values in their behavior at engineering research institutions provide preconditions for limitation of women's professional career. Our findings show necessity to create a more balanced organizational culture.

- The study provided the ground for developing the hypothesis about the unequal distribution of tasks accompanied by declared “woman-like” and “man-like” possibilities in E&T organizations. Women have to work twice, tripled more and harder in order to prove their competence. Women are pressed to use the individualistic coping and Machiavellian manipulation strategies in their research career in E&T. It is main reason that women less choose to study in engineering/technological fields and men dominate in the spheres of technological, engineering and nature sciences.

- The men accent with one accord that there isn’t any problem of women face in engineering/technological fields and women isn’t “otherness” in the technologies; it is only a useless highlighting of the problem. The present situation when men dominate in engineering/technological researches was formed due to objective naturally expressed reasons. In the opinion of men respondents, men have the need in controlling, they are self-confident, dedicated to a possibility to control, and this is the expression of power and manliness which is distant to women. This opinion confirms the fact that very beginning of contemporary technologies lies in army, its needs and militaristic objectives. For this reason people who mainly worked with those machines were men and they created the image of a computer as a technologically powerful machine. Technology was counter opposed to women and gained features of masculinity.

- Almost twenty years ago, Eastern Europe countries moved from a developed socialism and “planned economy” to a postmodern world and a postmodernist conception of the world and industry. Public gender equality system became more modern, but private system (family, personal life) outstanding is very traditional. The high figures of women employment in E&T research sphere is the heritage of mentality, attitudes and needs of post socialist (postcolonial, post totalitarian) countries. To achieve unified emancipation, legal equality between men and women was introduced, women were encouraged to work outside the home, to take equality of opportunity in education and private life. The gender equality model through sameness (equal opportunities or equal treatment) in sense, male norms remanded as the standards was used. Traditional equal opportunities policies were limited because they mean that women can only gain equality with men if they are able to perform to the standards set by men. The Baltic States governments have made a clear political choice by selecting an expert-bureaucratic model against participatory-democratic model (both definitions by Beveridge et al 2000), for implementing gender equality policies and gender mainstreaming as a part of human development and democratization, performed by specialists, civil servants. The expert-bureaucratic model reflects the ‘integrationist’ approach to gender mainstreaming. The ‘integrationist’ approach was kindly adopted to the Baltic conditions as a legitimate premise for marginalizing those stakeholders with an ‘agenda-setting’ approach as women’s advocacy and feminist/gender researchers. The short time to possess a highly developed understanding of gender equality policies and gender-sensitive policy instruments forced the marginalization, diversification and segregation for different social groups of women. Gender equality question was not (or very weakly) raised as a part of democracy.
Really implications of postcolonialism for understanding identity and otherness in diverse research E&T organizational settings are immense. These discourses are produced both within and by organizations. Gendered cultures have persisted despite a great deal of legislation and consciousness-raising regarding equal opportunity, suggesting the presence of deeply held assumptions and values which more tacitly guide individual behavior in ways that inhibit change.

Most obviously this is the case when engineering organizational culture is used to summarize that which is marginal, "other" and of which one is not a part. This led us to the prioritizing of women researchers' role in deconstruction of engineering and technological research institutions organizational masculine culture as "hard, dry, impersonal, objective, explicit, outer-focused, action-oriented, analytic, dualistic, quantitative, linear, rationalist, reductionist and materialist" (Hines, 1992) to the making of identities, including the "feminine" otherness. Nowadays postmodern approaches to culture and organizational culture are of interest in critiquing false unities, dichotomies and simplicities. It means that notion of organizational culture must be deconstructed for multiple, overlapping duties and contradictory processes of gendered otherness, of both women and men.

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