Is the Organization Culture of High Education Friendly for Women Researchers in Lithuania?

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Straipsnyje pristatomas Lietuvos kontekstą atspindinčios tarptautinės studijos fragmentas apie palankios kultūrinės aplinkos poveikį aukštojo mokslo srityje ir kylančias problemas moterims, kurios atlieka tyrimus industrijų ir technologijų srityse. Siekta nustatyti, kaip edukacinės aplinkos moterų „kitoniškumas" yra paaiškinamas, remiantis hierarchiniais, biurokratiniais santykiais, kaip „vyriškoji" kultūra paveikia moterų mokslininkių karjerą. Išanalizavus Lietuvos moterų mokslininkių, dirbančių šiose srityse, nuomones bei aplinkai būdingus faktus paaiškėjo, kad Lietuvoje vyrauja stereotipinė nuostata, jog moterys mokslininkės netinka dirbti „vyriškų" profesijų srityse (kaip antai technologė, inžinierė); akivaizdžiai deklaruojamas nepasitikėjimas moters sugebėjimais bei kvalifikacija industrinių ir technologinių tyrimų srityse; jau beveik dvidešimt metų vyksta Rytų Europos šalių plėtra link gerovės valstybės ir laisvosios rinkos santykių, konstruojanti moterims paradoksalią mokslininkių būseną „tarp modernumo ir patriarchalumo". Straipsnyje siūlomos neatidėliotinos priemonės, kurių būtina skubiai imtis mūsų šalyje, siekiant paremti moteris mokslininkes, pažangą ir padėti joms įsitraukti į Europos mokslinių tyrimų erdvę.

Pagrindiniai žodžiai: *stereotipai, „kitoniškumas", edukacinė aplinka, technologiniai ir industriniai tyrimai.*

INTRODUCTION

The number of women in the fields of high education 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 in Lithuanian educational environment.

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 in high education and aims to analyse how the masculine culture influences women's career, to understand the more informal or tacit factors of network and cooperation, to learn more about the individual experiences and coping strategies of women engineers in research. We are sure that the articulation of this problem in the E&T research field in academic setting is the most productive way to adapt "otherness" in the educational landscape, which is the main part of Lithuania gender research landscape.

During the time of work with literature sources (foreign and native), it has been stated that for the analysis of the gender questions in engineering / technological spheres there is a lack of science facts' basis accumulated using empirical researches' basis. Bearing in mind social phenomena cultural specificity, it is possible reasonably claim that there is notably lack of factuality covering the analyzed question of post totalitarian (postcolonial) countries' socioeducational and cultural reality. Lithuania according to this view is the typical representative of certain countries' bloc: what is typical for Lithuania can be typical not only for the Baltic countries, but also the whole Eastern European countries. These cultural specifically facts allow in the status of hypothesis to raise a question if similar researches about the gender in engineering / technological spheres' in high education 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?

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 – and women are traditionally excluded from the possession of power.

Thus, a woman enters an academic community fully burdened by prejudice against 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, 1994) 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. 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, Bell, 1998).

Recent qualitative (Bagilhole, 2005; Erlemann, 2002) and quantitative studies (Haffner, Könekamp, Krais, 2006) show that even today traditional masculine definitions of engineering determine the organisational culture and restrict women's feeling of belonging. Women engineers do not feel comfortable because of the rough climate, for example, in the construction industry (Bagilhole, 2005), and they leave engineering because of traditional masculinist culture (Erlemann, 2002). Women in science and engineering are more dissatisfied with their professional lives and careers as shown in a German (Haffner, Könekamp, Krais, 2006) and an Australian study (Roberts, Ayre, 2002). In Australia many engineering workplaces are female and family unfriendly. Women are disadvantaged by negative perceptions about their abilities and commitment to engineering, their exclusion from mentoring and social networks, and the harassing behaviour of male managers, colleagues and clients. Women with children report that their opportunities for interesting work and promotion are further reduced because they are not considered to be committed to their work (Roberts, Ayre, 2002). Zvinkliene[1] carried out sociological research

[1] The data of the empirical research "*An Academic Woman's Identity from Central and East Europe*" conducted in 1998–2000 by the author. Participants of the seminars on gender and feminist studies were at Budapest in 1998, and Yurmala in 2000, as well as scholars from universities in Switzerland and Lithuania. A total 68 respondents took part in the investigation of identity. One-third respondents were Westerners. The number of participants at the international seminars allowed to distinguish a group of Western women (from Finland, USA etc., and Switzerland) and a group of Central and East European women (from the Balkans, Russia, Latvia, etc., and Lithuania).

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 moments 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.

WOMAN AS 'OTHERNESS' IN ENGINEERING & TECHNOLOGY RESEARCH IN 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

Actually, all investigated women have done their self-identification within the public sphere; most of them referred to profession, but some referred to membership in a political party, labor marker, social structure. An academic woman apparently avoids identifying herself with "*a creator*" and "*a fighter*" or referring to such indispensable traits for a scholar as being "*ambitious*". Quite possibly such so-called masculine self-statements are considered a challenge by most women, and academic women would rather define their own personality as "*intelligent*", "*open-minded*", "*curious*", "*serious*", "*active*" at least.

Apparently, even the Western academic women who are not involved in gender issues often accept feminist ideology and identify themselves with a feminist. Evidently, academic women from Central and East Europe usually do not do so. This could also be due to a professional distance between self and a research object, closer connection with topics on women's issues often offers a job prospect.

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; Oseen, 1997a, 1997b). 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' the 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?

RESEARCH METHODOLOGY

Methodological design on gendered organisational cultures followed the hypotheses and pragmatic reasons of planning and doing integrated international and comparative research of having 18 partners from 13 countries. Project co-funded by the European Commission within the Sixth Framework Programme (2002–2006) "PROMETEA. Empowering Women Engineers in Industrial and

Academic Research" (more about project http: / / www.prometea.info). Tasks were formulated: to gather qualitative data on gendered organisational cultures and networks in academic, public and industrial research settings; to analyse and interpret qualitative data on gendered organisational cultures and networks in academic, public and industrial research settings; to gather qualitative data on gendered promoting and hindering factors of organisational cultures for women engineering careers. A central task is to study the way behaviors, work area, feelings, attitudes, priorities, and so on, in a particular culture, society, class, organization, profession, etc. are regarded as masculine or feminine. In this paper we present the most significant international research results on gendering in organizational culture of engeneering and technological research, which reflect Lithuanian situation and some comparative analysis on woman researcher as "others" in different countries.

Sample. The data were collected through structured interviews and focus groups with women and men engineers in two Lithuanian Universities: Department of Information Systems of Kaunas University of Technology and Biomedical Engineering Centre of Šiauliai University. The selection of sample in high education was determinate by the aims of research, one of which was similar proportions of gender. The researched were in posts ranging from Research Assistants to Professors. Secondary analysis was done by using discourse analysis. Table 1 and Table 2

Table 1. ***Demographic characteristics of Sample1***

Department of Information Systems of Kaunas University of Technology						
Rank	Total	Women	%	Focus group / women	Focus group / men	Interview / women
Doctor, professor	3	1	33.3	1	1	1
Assistant, professor	5	2	40	1	2	1
Senior lecture, assistant	28	9	32.1	3	2	–
Total:	36	12	33.3	5	5	2

Table 2. ***Demographic characteristics of Sample2***

Biomedical Engineering Centre of Šiauliai University						
Rank	Total	Women	%	Focus group / women	Focus group / men	Interview / women
Doctor, professor	5	1	20	1	1	
Assistant, professor	6	3	50	2	2	1
Senior lecture, assistant	4	1	25	–	–	1
Total:	15	5	33.3	3	3	2

show the demographic characteristics of researched in each University.

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

RESEARCH RESULTS

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".

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 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.
6. Mostly engineering workplaces in Lithuania are unfriendly for female and family.
7. Low awareness of scientific E&T society for the assumption that gender is socially constructed after post Soviet "women and men equality ideology" era.
8. Gap in understanding of the way achieving gender equality is reducing the differences between bio-men and bio-women by minimizing or blurring social gender on research sector.

Stereotypes and attitudes. The answers highlights that gender *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 etc., 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, Purvaneckienė, Ruškus, Kazlauskaitė, 2001; Šidlauskienė, 2005). Stereotyped thinking that discriminates women moves to a liberal and democratic environment – university. Research by Šaparnienė (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 compensative 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 is 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 repackaging 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 (Merkys & etc., 2001; Šidlauskienė, 2005) 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 sad, 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, stereotyped 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 orga-

nizing 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 dominate in technological areas due to the opinion that women have no knowledge in these matters, they are less clever. Historically, first programmers were women; therefore, in fact they are not less clever in the area of technologies; however, in nowadays the situation was naturally formed stating that there are more men in technologies. It is necessary to improve oneself in the world of technologies, to update one's knowledge, to be innovative, keen on cognition of technologies, to spend a lot of time for cognition of technologies."

The woman said, "I did not seek my career deliberately. It was determined by the fate. I tried to do the most necessary things." In her opinion, it is easier for women to work in the spheres of humanitarian and social sciences since men dominate in the spheres of technological and physical sciences. Women less chooses to study in engineering / technological fields. "Women have to work twice more and harder in order to prove their competence."

In the opinion of men attitude towards a woman as "the weak sex", a fragile being who is able to perform tasks of lower qualification is highlighted: "Attitude towards women differs from the one towards men, woman's nature is different. Attitude towards a woman is more careful, it is aimed not to insult her, a woman needs more tolerance. Even though it seems that there is no difference in scientific researches, 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."

A dynamic society needs constant changes, initiatives, and this requires some time. Government does not provide favorable conditions for women who would allow them matching work and family problems… "Men can get engaged in work much more. When favorable conditions are provided in society where a woman has more freedom and opportunities (appropriate kindergartens for child care near work places, optimization of work load and etc.), then gender problems won't be so striking."

It is interesting to note, that men think with one accord that there isn't any problem of women face in engineering / technological fields, and that 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 "I do not like when it is often artificially indicated that in one or another activity a certain number of women and men must be involved. This is a kind of discrimination. Persons can be selected according to objective criteria, abilities, and not according to sex. And life itself provides ***a natural selection***. E. g., in sales, services, educational system (especially in kindergartens) women are predominant, and in the world of technologies men are predominating". The main reason is women's nature dedicated for ***raising and taking care of children***,

while leaving aside one's professional career "Majority of women go for ***maternity leave***, are not working for a long time, and when they return a big ***gap in their career*** is observed, a 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 Garmutė, 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. Garmutė shared her experience saying these words: "Women have to do everything twice or three times better. They have to prove and to 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. 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. 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.

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. Organizational cultures in E&T research organizations are gendered because they are inequitable for women and men.

• The research underlines a stereotype attitude towards woman researcher as "other" in E&T educational organizations. As it is considered, ***professional gender stereotypes and archetypes*** manifest in society usually by tendentiously 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, antifeminization 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 chooses 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.

• Near twenty years East Europe countries were moving 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***, ***personel 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 (post-colonial, 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.

Family-friendly, women-friendly, research-friendly policies at Universities, higher education, public and private E&T institutions should be stimulated in the national education policies in order to improve the social, economical and working culture conditions of women scientists.

New attention should be paid to implementing a gender mainstreaming strategy in the national education policies, from pre-schools, elementary schools to higher education institutions. Separate means (separate programmes, innovations of re-constructions of basic and secondary schools curricula, study programmes, re-qualification programmes for teachers gender sensitive teaching, coaching, mentoring) for children, high school students should be managed in order to attract girls in science and provide different scientific disciplines (for girls to promote technological, natural and exact disciplines). Support schemes for the younger generation of women researchers at the national level and joining a Network of European Young Women Scientists should be carried out.

REFERENCES

Anderson C. A. Computer Literacy: Rationale, Definition and Practices. Paper presented at a Satellite Teleconference on Microcomputers in Education. ERIC ED228983, 1983.

Anderson R. E & etc. Equity in Computing // C. Huff and T. Fineholt, eds. Social Issues in Computing: Putting Computers in Their Place. NY: McGraw Hill, 1994. P. 352–385.

Bagilhole B. Reflections on Women, Civil Engineering and the UK Construction Industry // Creating Cultures of Success for Women Engineers, ed. Anita Thaler / Christine Waechter. Conference Proceedings of Final International Workshop of the WomEng Project. Graz. 2005, 5–9 October, pp. 73–82.

Beveridge F., Nott S., Stephen K. Mainstreaming and the engendering of policy-making: a means to an end? // Journal of European Public Policy. 2000, 7 (3), pp. 385–405.

Connell R. W. Masculinities. Cambridge: Polity, 1995.

Edwards P. N. The Army and the Microworld: Computers and the Politics of Gender Identity. Special Issue: Gender, Computers, and Differences, Signs. 1990, 16 (1), pp. 102–127.

Erlemann C. Ich trauer meinem Ingenieurdasein nicht mehr nach. Warum Ingenieurinnen den Beruf wechseln – eine qualitative empirische Studie. Bielefeld: Kleine Verlag, 2002.

Ferguson K. The Feminist Case Against Bureaucracy. Philadelphia, PA: Temple University Press, 1984.

Gardiner M., Bell M. M. Bakhtin and the Human Sciences: a Brief Introduction. M. M. Bell, M. Gardiner (eds.). Bakhtin and the Human Sciences. SAGE, 1998. P. 3–11, 30–47.

Haffner Y. B., Krais K. B. Arbeitswelt in Bewegung. Chancengleichheit in technischen und naturwissenschaftlichen Berufen als Impuls für Unternehmen. Published by the Federal Ministry for Education and Research, 2006.

Hines R. Accounting: filling the negative space // Accounting, Organization and Society. 1992, 17 (3–4), pp. 314–341.

Lee E. J. Effects of "gender" of the computer on informational social influence: The moderating role of task type // International Journal of Human-Computer Studies. 2003, 58 (4), pp. 347–362.

Maier M. We have to make a MANagement decision // P. Prasad, A. Mills, M. Elmes and A. Prasad (eds.). Managing the Organizational Melting Pot: Dilemmas of Workplace Diversity. Thousand Oaks, CA: SAGE Publications, 1997. P. 226–254.

Marshall J. Women Managers: Travellers in a Male World. Chichester: John Wiley & Sons, 1994.

Martin I. The suppression of gender conflicts in organiozations // D. Kolb and J. Bartunek (eds.). Hidden Conflict in Organizations: Uncovering Behind- the-Scenes Disputes. Newbury Park, CA: SAGE Publications, 1992.

Mascia-Lees F. E. The postmorden turn in anthropology: cautions from the feminist perspective. Signs: 1989, 15, pp. 7–33.

Merkys G., Purvaneckienė G., Ruškus J., Kazlauskaitė I. Lytiškumo stereotipų raiška Lietuvos mokytojų ir mokinių populiacijoje: apklausos raštu duomenys // Lytiškumas ir švietimas: pažiūrų, stereotipų ir ugdymo turinio tyrimai. Mokslo darbai. Moterų informacijos centras. Vilnius, 2001. P. 69–107 (in Lithuanian).

Mighty J. Triple jeopardy: immigrant women of color in the labor force // P. Prasad, A. Mills, M. Elmes and A. Prasad (eds). Managing the Organizational Melting Pot: Dilemmas of Workplace Diversity. Thousand Oaks, CA: SAGE Publications, 1997. P. 312–339.

Mills A. J. Organization, gender and culture // Organization Studies. 1988, 9, pp. 351–369.

Moreau R. The Computer Come of Age. The People, the Hardware, the Software. London: The MIT Press, 1984.

Oseen C. Luce Irigaray, sexual difference and theorizing leaders and leadership // Gender, Work and Organization. 1997a, 4 (3), pp. 170–184.

Oseen C. The sexuality specific subject and the dilemma of difference: rethinking the different in the construction of the nonhierarchical workplace // P. Prasad A. Mills M. Elmes and A. Prasad (eds.). Managing the organizational Melting Pot: Dilemmas of Workplace Diversity. Thousand Oaks, CA: Sage Publications, 1997b, pp. 54–79.

Reskin B., Padavic I. Women and Men at Work. Thousand Oaks, CA: Pine Forge Press, 1994.

Roberts P., Ayre M. Counting the losses... The Careers Review of Engineering Women: an investigation of women's retention in the Australian engineering workforce, 2002.

Saparniene D. Students' Computer Literacy: Educational and Psychosocial Context of Society with Limited Resources. Summary dissertation, Social Sciences, Education (07S). Šiauliai, Lithuania, 2002.

Smith D. E. The Everyday World as Problematic: A Feminist Sociology. Milton Keynes: Open University Press, 1987.

Šidlauskienė V. „Stiklo lubų" fenomenas moterų profesinės karjeros raidoje // Lyčių studijos ir tyrimai. 2005, Nr. 1, p. 17–22 (in Lithuanian).

Taylor C. Multiculturalism and "The Politics of Recognition". Princeton University Press: Princeton, New Jersey, 1992.

West C., Zimmerman D. Doing Gender. The Social Construction of Gender. SAGE Publications, 1991. P. 13–37.

Zvinkliene A. Representation Without Power, Academic Women in Lithuania // Ch. Giordano, A. Zvinkliene, D. Henseler (eds.). Baltic States, Looking at Small Societies on Europe's Margin. Introduction: Europeans from Remote Regions. By Christian Giordano, Alina Zvinkliene. University Press Fribourg, Switzerland, 2003. P. 157–180.

AR LIETUVOS AUKŠTOJO MOKSLO SISTEMOS ORGANIZACIJŲ KULTŪRA PALANKI MOTERIMS MOKSLININKĖMS?

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Santrauka

Straipsnyje pristatomas Lietuvos kontekstą atspindintis tarptautinės studijos fragmentas apie palankios kultūrinės aplinkos poveikį ir kylančias problemas aukštajame moksle moterims, atliekančioms mokslinius tyrimus industrijų ir technologijų srityse. Straipsnio tikslas – nustatyti, kaip edukacinės aplinkos moterų „kitoniškumas" yra paaiškinamas remiantis hierarchiniais, biurokratiniais santykiais, išanalizuoti, kaip „vyriškos" aplinkos kultūra paveikia moterų mokslininkių karjerą. Nors biologinė lytis yra įgimta skirtybė, socializacijos procesuose ji virsta sociokultūrine problema. Randasi diskriminacinių reiškinių – socialiai silpnesnis individas dažnai netenka lygių galimybių gyvenime bei profesinėje veikloje. Toks individas įvardijamas kaip „kitoniškas", pats fenomenas – „kitoniškumu", kuris ypač akivaizdus „vyriškos" kultūros – technologinių tyrimų laboratorijų – aplinkoje. Mokslinės literatūros šaltiniuose (užsienio ir šalies) konstatuojama, jog lyties dilemoms industrijos ir technologijų srityse nagrinėti trūksta empirinių tyrimų pagrindu sukauptos mokslinės faktų bazės. Turint galvoje socialinių reiškinių kultūrinį specifiškumą, galima pagrįstai teigti, kad labai trūksta posttotalitarinių (*postcolonial*) šalių socialines ir kultūrines realijas atspindinčios faktologijos nagrinėjamu klausimu. Lietuva šiuo požiūriu tipiškai reprezentuoja posttotalitarinių šalių bloką: tai, kas būdinga Lietuvai, gali būti būdinga ne tik Baltijos, bet ir visos Rytų Europos kraštams. Šie kultūrinio specifiškumo faktai leidžia hipotetiškai kelti klausimą, ar panašių lytiškumo industrinių ir technologinių tyrimų srityse efektų, aptiktų Vakarų valstybėse, tyrimų statistiniai apibendrinimai ir teorinės išvados gali be išlygų būti pritaikomos Lietuvai ir panašiems posttotalitariniams kraštams? Išanalizavus Lietuvos moterų mokslininkių, dirbančių industrinių ir technologinių tyrimų srityse, nuomones bei konstatavus aplinkos faktus, rutuliojasi keletas išvadų: a) visuomenėje susiformavusi nuomonė apie moterų netinkamumą „vyriškoms" profesijoms, kaip antai technologė, inžinierė ir t. t., tebevyrauja šiandien tiek Lietuvoje, tiek kitose Europos šalyse. Dažniausiai moterys mokslininkės, dirbančios mokslinį tiriamąjį darbą technologijų srityje, laikomos nepatikimomis bendradarbėmis, neturinčiomis lįsti ne į „savo" sritis, nes joms priskiriamos užduotys, nesusijusios su tech-

nika, technologijomis, jos negauna vertingos informacijos, rečiau įtraukiamos į gerai finansuojamų tyrimų mokslininkų komandas, tyrimų tinklus, nekviečiamos į prestižines konferencijas, nedalyvauja mokslo valdymo politikoje; b) visuomenėje akivaizdžiai deklaruojamas nepasitikėjimas moters sugebėjimais bei kvalifikacija industrininių ir technologinių tyrimų srityse. Moterys, pasirinkusios mokslinį darbą inžinerijų, technologijų srityse, turi dirbti du arba tris kartus daugiau nei vyrai, kad įrodytų savo mokslinę kompetenciją; c) jau beveik dvidešimt metų vyksta Rytų Europos šalių plėtra nuo „išvystyto socializmo“ ir „planinės ekonomikos“ link gerovės valstybės ir laisvosios rinkos santykių. Lyčių lygybės sistema, institucionalizuojanti vyrų ir moterų padėtį visuomenėje, tampa vis šiuolaikiškesnė, bet privačioje sferoje (šeimoje, namų ūkyje, asmeniniame moterų ir vyrų gyvenime, dalijantis šeimos ir profesiniais rūpesčiais) išlieka stipriai tradicinė. Moterų, dirbančių mokslinį, tiriamąjį darbą, industrinių ir technologinių tyrimų srityse, mentalitetas ir požiūriai išlikę ypač inertiški kaip posocialistinių poreikių paveldas (pototalitarinis sindromas) mūsų šalyje. Moterys mokslininkės, atliekančios mokslinius tyrimus, teisėtą lyčių lygybę įtvirtinti turėtų pradėti keisdamos lygybės poreikio ir mokslininkių vietos bei vaidmens suvokimą, vėliau siekdamos jo stiprinimo Lietuvos – ES mokslininkių veiklos srityse ir struktūrose plėtojimo.

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