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Coding and modelling of daily dress – about scientists coming out of the closet

Abstract

The article presents methodological issues related to the preparation and realisation of the project dealing with daily dress, as well as contexts and obstacles accompanying such research subject. The aim of the study is to understand better the dynamics, structures, and mechanisms accompanying daily dress and to show that dress and dressing up are significant parts of everyday life. Simultaneously, its realisation requires leaving the insofar observations in this area and methods applied in social sciences. Furthermore, rooting of the hypotheses in the empirical material calls for multiannual research and creation of methods for gathering, stardardising and analyzing data.

Keywords

daily dress, dressing up, methods of creation and analysis of data

Introduction

The second part of the title is a paraphrase of Bogna Dowgiałło's idea, who entitled her article *Socjolog w szafie* (en. *Sociologist in the closet)*.[1] The article presents the technique called „my closet", which is greatly helpful in the qualitative research of clothing and daily life dressing. The important part is the meeting of the sociologist and informant by the informant's closet, which gives the scientists partial access to the reality, which takes places without their participation: clothes and the ways of their exploitation. Our idea is also concerned with the daily life dressing but with the one that is worn in the specific area of the streets seen as a public space. We have decided to use a different technique of creating data and we analyze the date differently as well. In the realisation of this product, the sociologists have to strictly co-operate with the analytics through the modeling of the data and interpretation of the outcomes.

This article discusses several methodological issues related to interdisciplinary research project that has started in 2012 and in which team of scientists deals with coding and modelling of daily dress[2]. The aims of the project are better understanding of the dynamics, structures and mechanisms that accompany daily life dressing. As we realize our objectives, we gather data from different sources but the basic one are photo. Mostly, we use photos which were taken in the public places in a few Polish cities (however, we also used photos that were taken on the London's, Berlin's and Bielefeld's streets). On such basis, we have created a schema for coding clothes and dressing styles that allows to catalogue dressing habits on the multidimensional continuum in accordance with the main, well-measureable variables, i.e. colours, shapes/cuts, styles, fabrics, materials etc. Our aim is to prepare vast, decades long empirical material from two Polish cities (Poznań and Wrocław), as well as from a few big, European cities. In order to obtain and to analyse these complex and extensive sets of data, we will use techniques which stem, among others, from the network analysis, clusters, data mining and patterns recognition. The current stage of the research allows us to report on the contexts of our interests, ideas that we follow and the methods that we use in gathering and coding data, and on the first

[1] The full title of the article is "Socjolog w szafie. Prezentacja techniki pomocnej w badaniu ubierania się jako działania" [Sociologist in the closet. The presentation of the technique applicable in the research of clothing as an action]. It was published in a scientific journal *Przegląd Socjologii Jakościowej*, 9(2), pp. 184–201 [retrieved 30-04-2014]).

[2] The research is entitled Coding and Modelling of Daily Life Dressing: The Wrocław Fashion Project. The first presentation of our ideas took place at the 5th Global Conference Fashion: Exploring Critical Ideas, Mansfield College, Oxford University, UK, Sept 9-12, 2013 (see: E. Banaszak, T. Krueger, K. Kocjan, D. Volchenkov, 2013, Coding and Modelling Daily Life Dressing: The Wroclaw Fashion Project, http://www.inter-disciplinary.net/critical-issues/wp-content/uploads/2013/07/Tyll-Krueger-FASH5-wpaper.pdf). In Polish, a draft description of taken up problems was published in the article: Banaszak E. (2015). Moda i ubiór codzienny. Wrocław Fashion Project [Fashion and daily life dress. Wrocław Fashion Project], Research Papers of Wrocław University of Economics, 414, pp. 195-204.

analyses, which steer our further inquiries of methodological nature. In order to find answers to the most of our research questions, we need to conduct our observation for a long period of time. The obtained data will allow us to analyse the changes and to reveal long-term behaviours.

Contexts of interests

Fashion constitutes clothes and clothing an important plane of social life, on which social differentiation and inequality (age, sex, bodily norm, identity, wealth, cultural capital) are shaped, expressed and validated (Krajewski, 2005; Simmel, 1980; Veblen, 2008). Fashionable clothes is a distinctive feature of currently interrelated economic, political and celebrity elites (Bourdieu 2005). Its aim is still underlining and deepening of the differences that separate the elites from the rest of the segments of social structure through the rejection of straightforward purposefulness, practical usefulness and movement towards the esthetics, pleasure and extravagance, which is currently demonstrated with the use of the collections of expensive fashion designers and the one-time use of a given model[3]. Beside fashion, clothing and its final effect, which is the clothes presented to the others, are an important part of everyday life for each of us. Clothes play an important role in our life. Clothes constitute a powerful world of thoughts, habits and choices that exercise an influence over us (Agamben, 2010). Therefore, it is not surprising that the dress performs so many functions and that is it the ground on which so many contradictory dynamics clash: we treat it as an expression of individual taste; we use its ability to non-verbally communicate one's identity; we arrange its different parts into

[3] The evidence supporting this claim can be found in the tone of the posts published on the Internet websites about Catherine, Duchess of Cambridge: there is an astonishment for the style of her clothes from retail chains – which is mostly ascribed to the way of wearing those clothes by this person that to the clothes themselves – and writing at length about her frugality, because Catherine also chooses clothes made by less famous designers and she shows up in the same dress or shoes more than once ("Even though Catherine, Duchess of Cambridge, could wear different clothes each day, she is very sensible and frugal with her choices of the dress. She happened few times already to wear the same dress, which was pointed by fashion critics as a fashion faux pas. (…) Are Kate Middleton's nude high heels the hardest working shoes in the world? The Duchess is wearing those shoes already third year in a row […]." ("Księżna Catherine, choć mogłaby codziennie ubierać się w inny strój, w doborze garderoby jest bardzo rozsądna i... oszczędna. Już kilka razy zdarzyło jej się założyć tę samą sukienkę, co wytknęli jej krytycy mody uznając to za modowe faux pas. (…) Czyżby cieliste szpilki Kate Middleton były najcięższej pracującymi butami na świecie? Księżna chodzi w takich butach już trzeci rok (…)."). See: *Nie taka idealna – wszystkie wpadki księżnej Kate* http://kobieta.onet.pl/moda/wpadki-ksieznej-catherine/79g04]; furthermore, there are information about Victoria Beckham's purses – Victoria Beckham owns plenty of extremely expensive "Birkins" by Hermes). Clothes (but also accessories, such as shoes or purse) are the material evidence of having an access to the economic and cultural capital but they are also a manifestation of bodily hexis (because they require a specific body and the difference between social positions is inscribed in this body: its size, shape, visible/observed age).

a code that expresses a group membership etc. As Tomasz Leszniewski claims, these issues are interrelated; they are based on the same processes and they give an individual the feeling of group membership, as well as the feeling of distinctness and uniqueness (Leszniewski, 2009, p. 52). On the subjective level, it is displayed by the common reluctance to dress differently from our friends. On the other hand, there is a group of people who do not want to look the same as the passers-by or any other person within the eyeshot. The dress inscribe people wearing it into a given social class, all the same creating a relatively homogenous internal picture and excluding a given class from other groups. In other words, the dress reflects class and cultural differences, but at the same time, it expresses global fashion trends. The well-known tension between conformism and self-expression has been supplemented by another one. Local – global antinomy has an objective (cultural and economic) and subjective dimension – how to express oneself with the use of clothes sold in the retail shops; how to communicate others one's individual taste, preferences, social status etc. with mass-produced daily life dressing?

Dress market, considered fashionable, is still developing dynamically. In each bigger city, there are a few (if not a dozen or so) malls which space is mostly taken up by articles of clothing brands. Furthermore, there are plenty of another, independent shops and boutiques, where almost everyone, depending on the content of their wallets, could find something for themselves. The widely understood fashion market has eased the access to what is considered fashionable at the given time. Most of people who enjoy the consumer's status could obtain something that is at the given time popular and/or acclaimed. Easy access to everyday clothing is a frequent argument for the phenomenon of the democratization of fashion (Szlendak, Pietrowicz, 2007). However, is this really the case or does the egalitarianism looks into the wardrobe as well? How is it related to the mentioned earlier differences, for instance, class differences? Institutions preoccupied with fashion – fashion designers, editors, stylists – create new trends all the time, but do they influence daily life dressing and, if yes, to what degree? Do the fashion shows taking place repeatedly each season, called *haute couture* (fr. high fashion), have an impact over the everyday dressing habits of the most of us? Even clothes that are conforming to the present trends are usually relatively more expensive and this results in an uneven access to them.

Dressing styles are changing and today those changes take place faster and more frequently than in the past. The cycles of changes happen within few months and the offer a wide range of particular items of clothing (Braudel, 1981). However, what we will see on streets is also highly influenced by the giants of retail sales (we call their shops the "retail shops") – these are a couple of main brands, which decide every season what will be worn within the next few months, what will be the current "must have". This

politics possesses clear economic aspect; the point is to create clothing items which will be sold. This variability is controlled by mechanisms borrowed from fashion. How does the so-called "street" act towards seasonal novelties? The seasonal character of cuts and colors may seem overwhelming but the "streets" handle it preaching, for example, the immortality of inventions such as jeans and t-shirt. Though it was the most popular in the 60s, this combination of clothes is still in use. Season by season, it is still visible on the streets and present in nearly every clothes shop. Only the details change[4]. There are more clothes in wardrobe which stood the test of time. Fashion business calls them the "carry over" products, i.e. such clothing that is unbothered by the seasonality and can be found in the shops irrespective of the time of the year (they can differ only in the clothing insulation, depending on whether they are sold during the spring/summer season or autumn/winter one). Rocker jackets, converse snickers or the classical black dress could be given as examples here. There is also a separate category of clothes which is called "basic". Plain t-shirts or trousers, minimalistic sweatshirts and sweaters usually belong to the category of these basic items. They are usually the base, which is combined with seasonal, depending on the current trends, elements of the dress. Is this organization a way of respecting pragmatic customs that customers make of mode codes? Is it the way in which the "street" disrespects clothing codes of haute couture? Is this kind of clothing really worn everyday and visible among the by-passers? Which items of our clothing display similar continuity and which can be said to be present regardless of the trends? Is there any relationship between what is happening in the fashion world and our long-term behavior? If yes, what does it consist in? Is it possible to notice the differences in the dressing habits of the habitants of certain cities or countries? Are these types of diversification less of local character and more of transnational or cultural? Could the clothes worn every day inform us how people handle the earlier mentioned tensions? Is it affected by such variables as sex and age? These questions made us plan and run research that could allow us to conclude whether certain phenomena exists or not.

Perturbations related to the study of daily life dressing

How should the clothes/clothing be studied as a socio-cultural phenomenon, without narrowing it down to the fashion? Such a question is not unjustified, since fashion turned out to be significantly more a sociological category than dress and dressing up. Fashion is also a phenomenon which, on one hand, turns dressing up into an important social event of modern societies (König 1979, Lipovetsky 1994), and, on the other, makes

[4] For instance, in the case of trousers it is their preshrinking, the width of trouser legs or the type of waist, which decide about the attractiveness of the trousers.

clothes an object of interest of sociologists. It does not mean that there are not any scientists who could not perceive dress itself as an interesting subject; however, there had not been many of them (e.g. second Chicago school of sociology, French sociologists; see also Dowgiałło 2013: 185)[5]. The number of research devoted to the daily life dress and dressing is still low, which could be the result of the triviality of clothes/clothing as well as "partially [related to] the lack of proper methodology to investigate this part of social reality"[6] (Breward, 2003, after Dowgiałło, 2013, p. 186). The quotation is concerned with the qualitative research; however, we believe that it can be used with reference to certain other methodologies as well. It is also not an easy subject to study; perhaps, because so many works devoted to this issue are based mainly on the declarations of respondents.

Dress/dressing up in our project (and on this stage of research[7]) comprises of wearing different items of clothing in the conditions of co-presence in a specific area, which is the street of a big city. The specific of a street is, among others, based on the crossing the frames of one episode or meeting; it is quite difficult to change the dress for the next interaction partners – it can be modified (we can take off a jacket, loosen a tie, roll up the sleeves or legs, etc.); however, these modification do not result only from the interactional influence but other factors as well (e.g. the temperature of environment, weather conditions). Clothes (not only in such conditions) cannot be adjusted to verbal communicates; therefore, the items of clothing need to be combined in such a way as to review the effect as normal[8]. In opposition to ambiguous clothing and non-sense clothing, "*normal clothing* allows the interaction, yet it is not special stimulus to engage personal contact. *Non-sense clothing* can cause anxiety or even lead to stigmatization, which could be impediment the interaction. Only in the case of *ambiguous clothing* there is a clear 'review' … such clothing positions the person who wears it on the prominent position …"[9] (Dowgiałło, 2013, p. 188). By the term 'clothes' we understand the items of clothing which are displayed to the participants of the street meetings or episodes. The final effect (i.e. the clothes

[5] In recent years, there is noticeable growth of interest in the female wardrobe and in the meaning of daily dress. See: Guy, Banim and Guy (2001); Woodward (2007); van der Laan, Velthuis (2013); Klepp, Bjerck (2014).

[6] "…po części [jest związane] z brakiem odpowiedniej metodologii do badania tego obszaru rzeczywistości społecznej" (Breward, 2003, after Dowgiałło, 2013, p. 186).

[7] The project has been planned as a multistage research, where each stage has its specific issues and the methods of creating and analyzing data. Coding the data retrieved from the photographs and its modelling is the first stage.

[8] We are referring here, after Bogna Dowgiałło, to the theoretical idea represented by Gregory P. Stone in his work *Appearance and the Self* (1977).

[9] "*[u]biór oczywisty* (normal clothing) co prawda umożliwia interakcję, ale sam w sobie nie stanowi szczególnego bodźca do nawiązywania kontaktów osobowych. *Ubiór niezrozumiały* (non-sense clothing) może budzić niepokój, wręcz może powodować stygmatyzację, przez co bywa przeszkodą do podjęcia interakcji. Dopiero w przypadku *ubioru nieoczywistego* (ambiguous clothing) pojawia się widoczna „recenzja" (…) taki ubiór stawia noszącego na pozycji eksponowanej (…)" (Dowgiałło 2013, s. 188, translation mine: PK)

presented to the others) is a form of record of a string of activities to which we, the researchers, do not have an access or we do, but only restricted. It is materialized and embodied practical knowledge of the person wearing clothes, which is resulting from an experience (buying clothes, wearing them, designing specific sets, using reviews received from the interactional partners, etc.). This experience differs from the stylizations done by professionals and presented by models, celebrities and elites. This part of reality happens without the direct participation of agencies from the world of fashion and without fashion professionals.

Methods

The aim of our research project is better understanding of dynamics, structures and mechanisms participating in daily life dressing. Its realization requires retrieving data from different sources, applying diverse methods of analysis and using specific techniques of gathering, storing and preparing data, as well as skilled and creative combining of such diverse data so as the presented hypotheses were more strongly rooted in facts than they were before. Because of the above mentioned requirements, the project has been divided into several problem areas and manners of realizations. We have decided that in order to find answers to some of the posed questions and to realize basic aims, we should not gather qualitative data and we should go beyond standard quantitative procedures applied in sociology. We have decided to use the atypically understood existing material to learn the dressing habits; it is the clothes seen on the streets, a materialized record of earlier activities. The combined items of clothing, worn and shown to the others, are a form of record of human activity and thereby a form and source of naturally occurring data. The observation of the final effect, which is the clothing worn in the conditions of co-presence of others in the space of the street, allows avoiding part of difficulties that arise from the application of the category of fashion to clothing, or from relying solely on the declarations of the subjects; or those which are related to the presence of the researcher during everyday actions, which are usually not accompanied thereby (as, for instance, in the technique "my closet"). It does not mean that our manner of conduct is free of any downsides, e.g. we do not gain knowledge on the decisions regarding buying and using clothing, which result from both individual preferences and influence of significant others. Furthermore, we do not grasp the processes of mutual matching of dressing up activities, as well as 'matching' objectively available final product, subjective preferences, and influences of significant others in the process of dressing up, which is understood as taking up an activity of buying and wearing certain clothes and as a process of negotiating the meaning of clothes by their users in everyday life.

The specificity of the gathered material results from documenting the elements of clothing and their sets on the photographs took by researcher. We used photos that presented well-lit, full, front silhouette, so that we could retrieve the most detailed information on the clothing, including colours and texture of the materials. To avoid subjectivity, the colours were coded with the use of computer program. In order to avoid subjectivity, the colours were coded with the use of computer program. In the Autumn 2012, we have taken a series of photographs on the streets of three European cities: Bielefeld in Germany, Wrocław in Poland, and London in Great Britain. The choice of the cities was not determined by any special assumptions but by our possibilities. We have taken pictures in public places. It was significant for us that the gained material was diverse; that the people on the photos were of different age, sex, socio-cultural status and economic wealth. It was not easy to choose the such places, for instance, because of the shrinking public-access areas, performing public functions. It is more and more frequent that such places are not owned by the city and these owners determine more or less explicit rules of being in their areas. However, it is still possible to find in the big cities places, where the paths of people of different social, economic and cultural attributes cross. After determining where are such places, we began taking photographs. In our first attempt, we have considered only the character of the place and the weather (we have chosen sunny days; this choice was determined by the quality of the photographs, our mood, as well as the character of clothes worn on such days – as observers, we were interested in gaining the most data that we could read from the pictures). We have used the photographs several times; for the first time to create the coding schema, for the second time to check whether it is possible to accurately and reliably describe the daily life dress with the use of our schema, and for the third time to descried and code the most of the cases in order to create a prototypical data base.

In order to gain a large enough data base to realize our scientific goals, we have needed a proper schema allowing to code the items of clothing and styles. In other words, we have needed a tool that would allow us to "retrieve" a significant amount of information from the photographs in the form suitable for the mathematical analysis with the use of computer techniques. Therefore, we have used the first series of the photographs as a visual material to create the coding schema. The main issue was to create a general model of the silhouette that would organize further work on the schema. We decided to create separate schemas for men and women, slightly different, yet based on the common core, allowing their integration and comparison. It turned out that the drafted conceptual work was more easily performed in the case of men. This is where we started creating our schema. The next task was to reduce the abundance of cuts and models to the types that reflect the basic differences and the most significant characteristics. The next step was to transform them into variables of certain values. The outcome of our work

is a complex schema, suitable for coding clothes and dressing style, which allows to directly catalogue on a multidimensional continuum the dressing habits in accordance with the main, well-measurable variables, such as colours, cuts, styles, textures, materials, etc. It assumed the shape of a table. We have also placed in the table numerically-literal codes, which allow us to transform our observations into the data base for statistical analysis.

The male coding scheme

We will take colour values from the following body parts
(in brackets the variable name is displayed):

Color:	feet (fc)	legs (lc)	torso – base (tbc)	torso – cover (tcc)	head (hc)	suite (sc)

feet (f)			**legs**	**legs (l)**				**legs**	**torso – base (t1b) and (t2b)**			
style (fy)			socks	material (lm)	shape/ type (ls)	length (ll)	age-type (la)	patterns	type (tby)		patterns/ texture (tbt)	
1: sport	a: converse		1: with	1: jeans	1: skinny/ close--fitting	1: long	1: normal	1: mono	1: shirt	a: short	1: mono	
	b: athletic									b: long		
	c: casual					1a: 7/8				#: in		
										+: out		
2: boots	a: sport	# in	2: with-out	2: cord	2: normal	2: half	2: washed out	2: strips	2: T-shirt		2: stripes	a: vert
	b: ele-gant											b: hori
	c: casual											
	d: mil-itary											
3: casual shoes			3: not visible	3: wool/ cotton	3: wide	3: short		3: motives	3: polo		3: rhomb	
4: elegant				4: sport/ synthetic	4: baggy			4: imprint	4: sweater		4: motives	
5: sandals				5: leather				5: checker	5: sweatshirt		5: imprint	
6: moccasins								6: others	6: zip sweatshirt		6: picture	
7: flip-flops									7: jacket		7: others	
									8: blezer		8: check-er (plaid shirt)	

Table 1. Part of the male coding scheme. Source: Ewa Banaszak, Konrad Kocjan, Tyll Krueger

The female coding scheme

We will take colour values from the following body parts
(in brackets the variable name is displayed):

Color:	feet (fc)	legs (lc)	corpus – (c)	torso – cover (tc)	head (hc)	suite (sc)

style (fy)				heel (fh)		Platform (fp)
				height	thickness	
1: sport	a: converse			1: flat		1: full
	b: athletic					2: front
	c: casual					3: back
2: casual shoe				2: medium	a: thin	
3: elegant					b:medium	
4: sandals					c: thick	
5: flip-flops				3: high		
6: boots	a: sport b: elegant c: casual d: military	1: low	# in	4: very high (>15cm)		
		2:medium				
		3: high				
		4:over-knee				
7: mules shoes						

legs (l)										
trousers (lt)					leggings + tights	skirt				
style+ material	Shape/ type	lenght	age-type	patterns		style+ material	Shape/ type	Length	patterns	
1: jeans	1: skinny/ close -fitting	1: long	1: normal	1: mono	1: tights	1: jeans	1: close -fitting	1: long	1: mono	
2: cord	2: normal	1a: 7/8	2: washed out	2: strips	2: leggings	2: satin/ silk	2: normal	2: medium Knee uncov-ered	2: stripes	a: vertical
										b: horizont
3: wool/ cot.	3: wide	2: half		3: motive	3: without socks/ tights	3: wool/ cot.	3: wide	3: medium Knee covered	3: rhombes	

<table>
<tr><td colspan="10">legs (l)</td></tr>
<tr><td colspan="5">trousers (lt)</td><td>leggings + tights</td><td colspan="4">skirt</td></tr>
<tr><td>style+ material</td><td>Shape/ type</td><td>lenght</td><td>age-type</td><td>patterns</td><td></td><td>style+ material</td><td>Shape/ type</td><td>Length</td><td>patterns</td></tr>
<tr><td rowspan="3">4: sport</td><td rowspan="3">4: baggy</td><td rowspan="3">3: short</td><td rowspan="3"></td><td>4: imprint</td><td>4: socks</td><td rowspan="3">4: mixed</td><td rowspan="3"></td><td rowspan="3">4: short</td><td>4: motives</td></tr>
<tr><td></td><td></td><td></td><td>5: Polka dots</td></tr>
<tr><td>5: checker</td><td>5: not visible socks</td><td></td><td></td><td></td><td>6: checker (plaid skirt)</td></tr>
<tr><td>5: leather</td><td></td><td></td><td></td><td>6: others</td><td></td><td>5: leather</td><td></td><td></td><td>7: others</td></tr>
</table>

Table 2. Part of the female coding scheme. Source: Ewa Banaszak, Konrad Kocjan, Tyll Krueger

Male coding scheme comprises of 19/27 variables (without colour/with colours), which describe feet/shoes, legs/trousers, torso/basic coat and overcoat, head/headgear, colours, cuts, materials, textures, patterns/designs. On the basis of the decisions that have been mode during the creation of the coding schema for items of clothing and dressing styles for men, we have begun work over the modification, extension and adaptation of the schema to use it for the recording of the observations concerning women. The table with female coding scheme comprises of 35/54 variables (without colour/with colours)[10]. The schema was tested in order to verify whether it allows to accurately and reliably record information concerning every day dress. The three researchers took the roles of coders. We have chosen a dozen or so full silhouettes of men and women from the photographs taken from the front and with well-visible items of clothing[11]. Then we numerated the silhouettes visible on the photos and began the coding. The comparison of the results of our work was quite satisfactory. We found only few evident mistakes and errors and a dozen or so of discrepancies[12] in the codes. In order to prevent those discrepancies from

[10] Both of the schemes, the used categories and their names were consulted with an expert; a person who works in a designer shop with fashionable clothing and belongs to the company which attempts to shape trends of every day dress.

[11] We chose only adults. We did not consider children and teenagers because both these categories do not decide at all about their clothing or their choices are, in different ways, contingent upon adults. The proposed procedure does not allow to decide who is dependable on others in their decisions, how significant is this influence or what is its nature. This fact is significant for the questions that we ask. This objection is also applicable in the case of adults; however, the further steps of the project include the recognition of factors that influence the decisions and choices of every day dress as well as the nature of the influence.

[12] The discrepancies were of different nature. A significant amount of discrepancies was concerned with the judgment of the age, especially in the case of women. It was difficult to find the right solution since

happening we have decided to provide a detailed training to the coders and to provide a coding scheme with a legend[13].

female	**female**	**female**	**female**	**female**	**female**	**female**	**female**
feet	feet	feet heel	feet heel	feet	leg/trous.	leg/trous.	leg/trous.
color	style	hight	thickness	platform	color	style/mat	shape
#32433D	2	1			#223245	1	1
#AA8743	2	1			#1E2636	1	1
#191E21	2	1			#191E24	1	2
#2A2D34	2	2	b				
#F8FFF8	2	1			#1D282E	1	2
#414A59	2	1			#72716F	2	2
#ACA9A2	2	1			#B2CBD0	2	2
#2D383D	2	1			#4F6C7C	1	1
#2F474B	2	1			#1E3138	1	1
#4C5C5C	2	1			#1E1E28	1	1

Table 3. Part of the data base for women. Source: Ewa Banaszak

It has to be clearly stated that the photo, even the best made and prepared, allows to retrieve only what is visible. It is a great wealth of data which we subjected to reduction during the creation of the scheme for coding clothes and clothing styles. However, the wealth of this nature is not enough to realize all of the aims of our undertaking. As it was already mentioned, on the photographs we can see the worn clothes but we cannot find out what decided about their choice and what are the meanings given by the clothes owners and observers to different items of clothing. Therefore, the second phase of the project should aim at the discovery of the factors influencing the decisions and choices of daily life dressing and the nature of their influence (e.g. by the standardized questionnaire filled single-handedly by the respondents). Perhaps the outcomes of these two phases of the

coding in this category is based solely on the subjective assessment and the discrepancies were concerned with the adjoining categories. Therefore, the discrepancies were minor. When it comes to the errors that were made, the only advice is to exert attention and engagement in the coding. The skillfulness of the coder grows with the process of coding (which can be measured by the amount of time needed for the same action at the beginning and in the end of the task) and the number of errors declines.

[13] The legend contains examples that allow to depict and describe the connotations of a given category (this involves two facts: firstly, the fact that the coder was at the same time the creator of the scheme and the small amount of discrepancies in coding could be significantly related thereto; secondly, the fact that the possibility of objective reading of the photographs is restricted and the process of interpretation is inevitable). This phase of the project allows the possibility of engaging scientists from other facilities, who could use our coding scheme and matrix to post and save the coded data, to create and complement the raw data base and to use this data base, downloading data for their research.

project will require deepening. Hence we do not exclude the possibility and/or necessity for the third phase of the project – the qualitative research, group interviews (focuses) and individual in-depth interviews. This phase would be the narrowest when it comes to the number of investigated cases but the deepest when it comes to the data allowing to understand the observed regularities and paradoxes. The third phase would also allow us better understanding of the meanings related to different items, cuts or colours of clothing.

Results

The discussion of the first and restricted results is conjoined with a general presentation of theoretical conceptualization of the suggested data analysis methods. The first of the suggested methods is based on calculating a dress up distance between the appearance of street walkers directly from their photographic images taken *in situ*. The notion of dress up distance closely resembles well known dress-up games or spot-the-difference puzzles: following a standard list of attributes, which we discuss in details in the forthcoming section, it accounts for a number of differences in the clothing, footwear, accessories, and age between two individuals. Informally, the dress up distance between two individuals equals the minimum number of single-element redress (put on, put off, and changes) required to transform the appearance of one person into another. In information theory and computer science, a string metric for measuring the difference between two sequences counts the minimum number of single character edits (insertion, deletion, substitution) required to change one strings into the other (Levenshtein, 1966). In our approach, the Levenshtein distance between two vectors encoding the appearance of two individuals is nothing else but a minimum number of clothing operations required to transform the appearance of one person into another (so that it is always a non-negative integer number). Since the strings describing the appearance of men and women are of different lengths, we consider them separately. If a number of individuals is considered, all the information about dissimilarities in their appearances is encoded in a symmetric matrix of pair-wise dress up distances; and this information has to be visualized. The typical method of representing a distance information is to convert the matrix into a phylogenetic tree, so that the look-alike individuals appear on the adjacent leaves of the tree. Trees are interpreted by summing up the length of the branches separating data items described by a symmetric matrix of dress up distances. If the lengths of the branches are short, the tree describes a group of individuals looking similarly; if the branches separating two individuals are long, the tree describes them as being committed to the different dress traits. Nevertheless, a tree structure accounts only for the bilateral type of relations between the most similar data elements and displays only a well-clustered segment

of information about dress styles. Therefore, it is a complementary approach to the statistical analysis of current fashion trends, which transfers the symmetries encoded in the distance matrix into a geometric pattern representing the complex relations in terms of distances and angles, as in Euclidean geometry of everyday intuition.

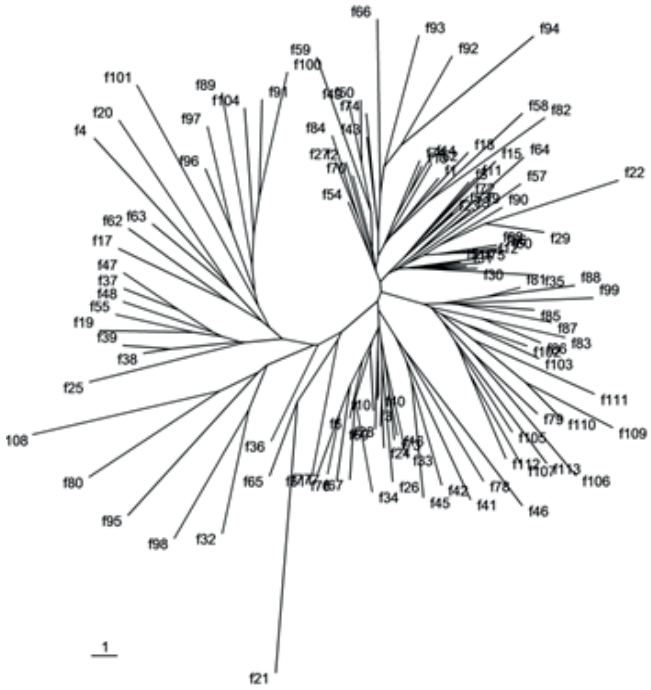

Figure 1. The unrooted phylogenetic tree representing the relationships in appearance of 113 women from Wrocław (the graph does not include the information about colours). The degree of data fit to the phylogenetic tree is 78.7%. Source: Dima Volchenkov

The dress up distances were also counted for 85 men from Wrocław and a small sample of men and women from London; they were also visualized by phylogenetic trees. Each of the visualizations representing relation between the London's and Wrocław's by-passers seems to show a distinction into groups of varying size (in each of the cities and for both of the sexes).

Another of the proposed analysis also presents the data by the means of graphs, separate for men and women. The division could apply to individuals, where the peaks denote persons, or to the category of dress – each variable is represented by a point. Owing to bipartite structure, two main reduction schema are available, depending on whether we want to investigate clusters of people or clusters of clothes. The presentation of the data structure by the means of bipartite graphs, together with the modern tools of complex network analysis, is superior to traditional statistical analysis. It is a particularly good

choice if we are interested in looking for the patterns and clusters. It also allows the statistical study of relative sparse data sets, where classical tools are of limited use due to the high dimensionality of the said data. There are multiple relations between sets and it possible to present the relations between the points in different ways. The analysis of graphs should provide with the sought information.

Typically, projections of bipartite networks have a lot of cliques – that is group of nodes, where every node is connected with any other node from the group. For instance, all individuals which wear blue jeans of a certain type (e.g. medium age, normal fit) will become connected by an edge in the case of the projection on the individuals. Hence the size of clique structure reflects the amount of people wearing a given fashion item. Overlap between the cliques denotes the amount of people wearing simultaneously different fashion items. With respect to the projection on the fashion items, partition cliques represent the clothes that individuals wear (each individual gives rise to a single clique consisting of the fashion items worn by the person on the photo). Hence large overlaps between the cliques of the clothes projection indicate typical pattern of dress combinations observed in our population. Below, there is a weighted graph, where the weight of an edge (thickness of segment) between two nodes (particular variants – elements of the dress) depends on the frequency of their appearance. The thicker is the segment, the more frequent is the combination of the elements. Colour variable was coded by the continuous variable and is not presented in the graph (it will be analysed separately).

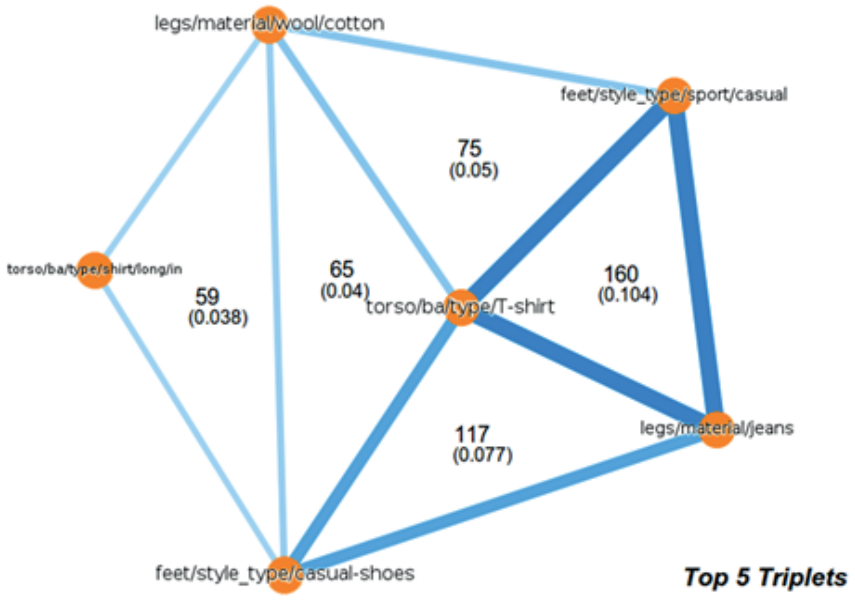

Figure 2. Projection based on common clothing triplet. Source: Debopriyo Banerjee

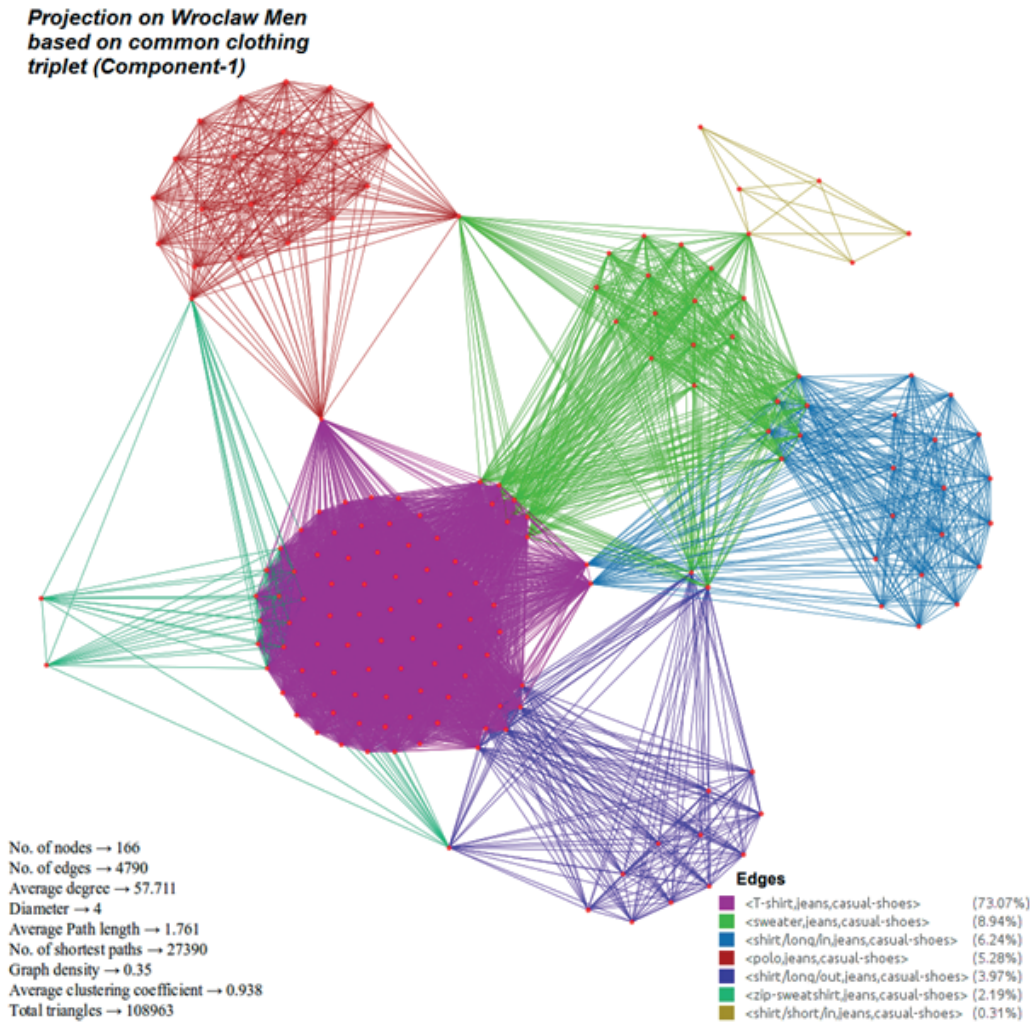

Figure 3. Projection on Wrocław Man based on common clothing triplet. Source: Debopriyo Banerjee

As a result of the analysis, we created schemas that illustrate the most common dress correlations, i.e. which items of clothing are paired. Certain tendencies are already apparent, though the graphs consider insignificant percentage of the data. The hypothesis that certain items of clothing are chosen relatively more often than the others. It emerges from the presented networks that the most common items of clothing for men were: long jeans trousers, regular, or not washed-out/threadbare along with a T-shirt/shirt and casual shoes. The most common variant among women were: flat shoes, long, skinny trousers not ripped or bleached. Taking the most popular items of clothing into consideration, model sets for men and women were generated. Each most common item of clothing was paired with other most common items. One of the elements was

a starting point and the rest was generated accordingly. The result of these operations are presented below in the form of visualizations. The most popular combination for women comprises of skinny trousers, monochromatic shirt and flat shoes. In the case of men, the set consists of jeans, monochromatic shirt as well and casual shoes. These types of prototypes project an image of certain averaged or standardized set of clothes, which could be worn by a randomly selected individual, and its casual character. We intend to examine more closely correlations and clothes stylistics or dynamics and relations between them in the further analyses of empirical material.

Figure 4. The prototypical outfit for men.

Figure 5. The prototypical outfit for women.

While analyzing the dress choices, it is not possible to ignore the dress colours. The issue with colours is their subjective reading by scholars: the knowledge of the colours, their finding on the wide spectrum of colours and their reading can differ significantly. Thus, to prevent these issues from arising, we used specialist measuring instrument – a computer program, which allowed more objective colour readings. Colour becomes particularly relevant in the choice of clothing, mixing it with other items of clothing and accessories but, at the same time, it depends on individual preferences and seasonal trends.

Already at the level of preliminary data processing, it became evident that colours play a significant role for both men and women in the choice of specific dress combinations. The colour analysis shows correlation between the coloristic choices in the section feet/legs – i.e. an apparent relation between the colour of the shoes and the colour of trousers, as well as in the section legs/torso – i.e. a relation between the colour of trousers and the colour of torso's clothing item. There are few colour variants, which reflect people's tendency towards specific combinations of the items of clothing.

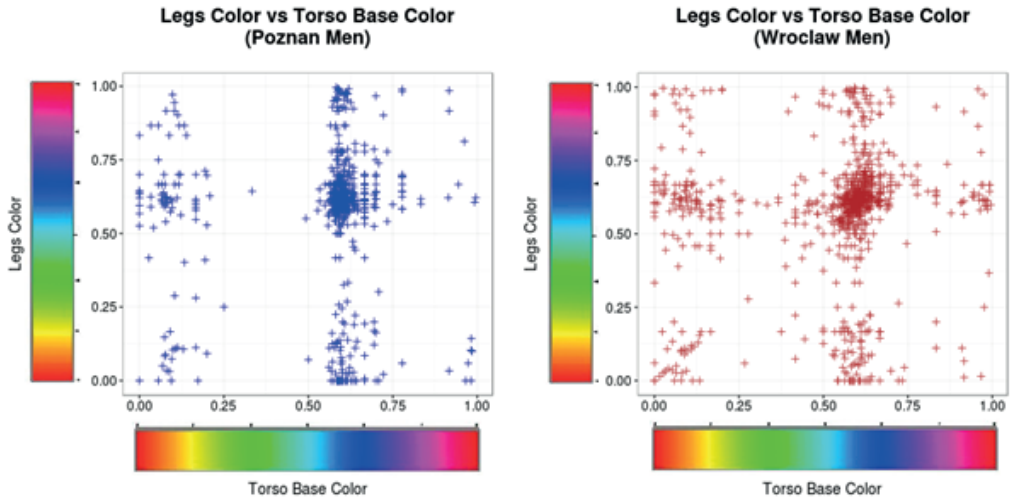

Figure 6. The colour combination for torso and leg for men. Source: Debopriyo Banerjee

Conclusions

To sum up, we repeat one more time that at this stage of research our goal is to understand dynamics, structures and mechanisms that accompany dressing. The above presented results are only the beginning of further analysis and study of discussed interrelations. Ultimately, in this phase of project and through the work on photographs, we aim at creating a data base according to the above described procedure. Large amount of data is necessary because of the number of considered variables; furthermore, we plan to use tools applied in the analysis of large data sets. The significant number of variables requires different methods of analysis that the ones applied in social sciences. The preparation and analysis of the data retrieved from the photographs allows us to determine the type of everyday dress, the most popular elements of clothing and their combinations, but also the elements of dress that appear regardless of the seasonal trends. This should also allow us to: perceive differences in daily behaviors connected with the dress in the inhabitants of chosen cities; to offer the basis to determine the character and range of such

differences; to establish whether everyday clothing worn in the specific public space, i.e. the streets, can inform how individuals handle tensions created by such antinomies as conformism – self-expression, global – local, egalitarianism – elitism. Perhaps certain items of clothing enjoy such popularity because they are open to interpretations and they allow to handle the mentioned antinomies. The obtained data will also be a point of departure to determine to what extent does the fashion institutions influence everyday dress and dressing habits; how does "the streets" handle the seasonally changing fashion; is there a connection between what is happening in the fashion and long-term, everyday dressing behaviors; and if yes, what is its nature. In other words, we expect that the gathered and analyzed material allows us to describe dressing habits, extension of the formulated hypotheses, their establishment and confrontation with beliefs based on our experiences, thus on the completely different data. The gathered data should allow us to learn about the elements of changes in fashion in the understanding of common taste (Blumer, 1969) and its dynamics, dress practices of "the street" in relation to the fashionable/unfashionable code (Davis, 1994). For example, we compare the information retrieved from the coded photographs of the inhabitants of different cities with models' silhouettes, from fashion magazines and so-called look-books of leading fashion brands, coded in the same way. This procedure could reveal whether the trends promoted by the fashion magazines and fashion brands that attempt to influence the market are reflected in the dress of city inhabitants and shown to the passers-by; and if yes, what exactly and after what time does it take place.

The materials that we gather and the tools that we have created or chosen are destined for the analysis of large amount of data. Gathering of such an amount of data requires a significant amount of time as well, especially if we are to grasp a dynamic aspect of the phenomena that is in the centre of our interest. This presentation aims at representation of the goal and research questions and illustration of the chosen methods and the directions of further study.

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