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Through the creator's eyes: using the subjective camera to study craft creativity

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'Through the creator's eyes': Using the subjective camera to study craft creativity

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Abstract

The present article addresses a methodological gap in the study of creativity: the difficulty of capturing the microgenesis of creative action in ways that would reflect both its psychological and behavioural dynamics. It explores the use of subjective camera (subcam) by research participants as part of an adapted Subjective Evidence-Based Ethnography (SEBE). This methodology combines: a) obtaining first person audio-visual recordings of creative action with a miniature video-camera worn at eye-level, b) accessing the subjective experience of the participant through a confrontation interview based on the recording, and c) formulating interpretations and discussing them with the participant. Illustrations of the technique are offered from a study of craft creativity, chosen as a test ground for its micro-level forms of creative expression. Findings are presented, exemplifying how the technique enables microscopic description of creativity at both process and content levels. In the end, the benefits, limitations and possible applications of the method are considered in the broader context of creativity studies.

Keywords: creative activity, craft, Easter eggs, subcam, Subjective Evidence-Based Ethnography.

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The methodological gap

The creative process has a dual 'inner' and 'outer' dynamic that is intrinsically difficult to capture using traditional methodologies. Piecemeal methods have been developed to tackle it (e.g., think-aloud protocols for capturing creative thinking, online observation of creative activity), but the *simultaneously psychological, social and material* characteristic of creative processes is hard to study in its entirety. The problem resides also in the fact that moment-by-moment descriptions of creative work are rare and 'recording' the microgenesis of creativity–its emergence in here-and-now contexts and creation processes which occur at microscopic level (Valsiner, 1997; see also Smith, 2008)–requires methodological and technological innovations. This paper demonstrates how new techniques using SEBE (Subjective Evidence-Based Ethnography; Lahlou, 2011) enable going beyond the current state of the art in the study of creative activity, with illustrations from craft creativity.

There have been, up to date, few studies concerned with the topic of creativity in craft. When faced with easily 'detectible' creative manifestations as embodied in great artistic or scientific products, why would anyone pay attention to almost invisible (and yet constant) forms of innovation in craft? However, overcoming the fact that folk art somewhat lacks the prestige of the 'higher' arts, craftwork represents an excellent ground to study creative processes in terms of both *access and detailed possibilities for investigation*. Indeed, folk art is defined by minute 'outbursts' of creativity which are both easy to evidence through comparisons with a large sample of similar productions, and clearly determined in time. Therefore such creative episodes can be subjected to a fine-grained analysis of microgenetic processes in creation. Also, as craftwork is repetitive to a certain degree and widely practiced, it is feasible to conduct systematic scientific research to explore these forms of creative expression and their variations.

Studying craft creativity: Current methods

One of the most notable studies of folk art, directly interested in how artists create their artwork, is Yokochi and Okada's (2005) investigation of the drawing processes of a Chinese ink painter. Their research revealed that the painter "gradually forms a global image as he draws each part one by one" (p. 245), thus testifying to the importance of both planning and monitoring one's work throughout the entire drawing process. Again focused on Eastern artistic traditions is the study of Kozbelt and Durmysheva (2007) who, although not inquiring about creative processes *per se*, explored the patterns in lifespan creativity of Japanese ukiyo-e ("pictures of the floating world") printmakers. Moving to another cultural space, the ethnographic research by Cooper and Allen (1999) engaged with quilt makes in Texas and New Mexico. In this case, as in many others when it comes to folk art, the artisans were women and their work reflected personal, family, and community histories (pp. 18-19). Similarly, a women folk art is the Indian *kōlam*, a form of sandpainting on the thresholds and floors of houses and temples using rice powder, widespread across South Asia. What careful investigations of this tradition exposed was a "far greater degree of flexibility" in execution than observers are ready to perceive (Mall, 2007, p. 70). This conclusion is also echoed by Hughes-Freeland's (2007) study of traditional Indonesian dances. While for an 'outsider' the dance routine could seem completely scripted, "for individuals within the tradition, creativity, liberation and even immanent subversion were central to their understanding of the tradition in which they worked" (p. 214). This commonly noted *discrepancy* between creators and observers, it will be argued, stems exactly from a lack of detailed and minute exploration of craft processes.

How can the microgenesis of creativity in folk art be studied? In most of the cases above and in others a combination of methods is employed and, among them, the central components are *observation* of craftwork, usually video recorded, and *interview*. This is valid

for both anthropological work (see Cooper & Allen, 1999; Mall, 2007) and psychological research. Perhaps the best illustration of the latter is given by Yokochi and Okada's (2005) study. They recorded the ink painter while working with the help of two cameras (positioned on both sides of the fusuma sliding door he was decorating), followed by interview about the drawing process (showing the videotape record). Yokochi and Okada were interested in several aspects that had to do with the activity and coded them as behaviours in the video material: e.g. number of drawing in the air movements, relation between pauses and hand movements. Recordings and field observations revealed interesting details about the creative process, for example the fact that, before applying the brush, the painter seemed to "rehearse his brush movement so that he can remember how to draw, and generate a mental image of what he plans to draw next" (Yokochi & Okada, 2005, p. 253).

In effect, while not yet used on a very large scale, *video recording* of the creative process has been more and more frequent in recent years in relation to a variety of domains beyond folk art such as portraiture (Konecni, 1991), design (Perez, Johnson, & Emery, 1995), science (Dunbar, 1997), improvised dance (Torrents, Castaner, Dinusova, & Anguera, 2010) as well as in the study of children's play (Baker-Sennett, Matusov, & Rogoff, 1992; Russ & Schafer, 2006) and music composition (Young, 2003). Indeed, for the research of complex thought processes and their associated behaviours, observation alone will not do (Kay, 1994, p. 124) and neither would interview. For most researchers, "videotape coding opens a window into actual task behaviours unfiltered through individuals' self-reports" (Ruscio, Whitney, & Amabile, 1998, p. 245) which could potentially suffer from many biases.

Using video recording facilities in research is commonly associated with a number of *opportunities* such as: 1) cheap and reliable technology enabling the filming of naturally occurring activities in detail, in their context, and as they happen; and 2) having the recording available for thorough analysis (Goodwin, 1994, p. 607), with the possibility of it being

repeatedly analysed and shown to others thus allowing inter-coder agreement (see Heath, Hindmarsh, & Luff, 2010). Still, videotaping creative activity has of course its own *shortcomings*. Beyond the preliminary difficulty of gaining permission for the research and the final impasse of analysing a dataset of extraordinary complexity, there is also the fundamental question of how to set the cameras in order to capture creative processes. This challenge ranges from the more practical issue of how to capture work done on very small objects often held close to the creators' (non-transparent) body, to the more theoretical reflection on the 'outsider' perspective of the researcher positioned at the other end of camera (see Paterson, Bottorff & Hewat, 2003). Unavoidably it is the researcher who, by the mere placement of the camera and decision on what and how to film, actually shapes the reality meant to be observed. This is further exacerbated in those cases in which researchers make sense of video data with no input from participants. Addressing these weaknesses is a novel methodological approach constructed around the use of 'subjective cameras'.

Subjective Evidence-Based Ethnography

Subjective Evidence-Based Ethnography (SEBE) originated in workplace studies on intellectual workers, where, just as in art, it is crucial to have data describing both the mental processes of the actor and a very detailed view of what he or she is actually doing (reflected in texts, graphics, computer screens, and the like). SEBE answers the old researcher's dream of knowing what the participant thinks as he or she performs, thanks to considerable progress in wearable capture technology and some interesting characteristics of human memory. Every individual lives in his or her own '*phenomenological tunnel*' of chained perception-action loops, and only through this very personal perspective can situated action (Lave, 1988; Suchman, 1987) be understood. The major difficulty is how to access this phenomenological tunnel in ways that respect its subjective and situated nature.

In SEBE first the participant records effortlessly the events with the subjective camera (or subcam) from his or her own situated perspective, in real situations, without needing extra mental load or attention in this process. The use of wearable video cameras (Lahlou, 1999, 2006; Omodei & McLennan, 1994; Omodei, Wearing, & McLennan, 1997), placed at eye level, provides a film from the exact perspective of the respondent (subfilm) which is crucial in the case of craft creation where there is a continuous adjustment of the artisan's action to the effect obtained by the previous act. The wearable microphone offers extra clues about the emotional state of the participant (e.g. breath, voice tone, exclamations or mumbles), and also the sounds of action which are often critical feedback cues for the actor as he or she performs the activity.

Then the respondent is invited to analyse *ex post facto* the events with the researcher, while reviewing the recordings in detail. These *self-confrontation interviews* are build on the experience of various verbal protocols (Newell and Simon, 1972) developed in ergonomics and cognitive science and dedicated to understanding the rationale of a person's actions. More specifically here, Russian activity theory (Engeström, 1990; Leont'ev, 1974; Nosulenko & Rabardel, 2007) enables 'peeling' the various layers of goals and sub-goals–part of the person's motivational orientation–behind each action and can guide the self confrontation interview, as the respondent is asked to make explicit, step by step, his or her goals and thoughts during the process. Viewing the subfilm allows actors to be re-situated in the exact context of action and to re-experience the journey through their own phenomenological tunnel; in doing so the participant accesses his or her episodic memory (Tulving, 1972) which by its multimodal aspect renders this reconstruction of mental states possible and accurate.

Finally, the respondent is invited to check the validity of the interpretations as reformulated by the researcher; this does not mean that the respondent's interpretation should always be accepted; nevertheless to understand fully a course of action one needs to be aware

of the way participants interpret their environment and how they account for it. The last stages are therefore a '*triangulation*' where two (or more) interpreters with different skills and knowledge confront their interpretation of the same material (the subfilm). In this way, SEBE can be said to provide a description which is acceptable *both* as emic and etic, both in terms of the actor and of outside observers (see Pike, 1967).

In conclusion, SEBE uses the new affordances to capture, analyse and share empirical data offered by Information Technology, and especially video annotation techniques for annotating and collectively processing data (Cordelois, 2010; Hollan & Hutchins, 2009; Lahlou, 2010). The reader who wishes to apply this technique can refer to a lengthy methodological paper describing the protocols in great detail (Lahlou, 2011). Rather, the following sections will provide an illustration of the method that speaks for itself and demonstrates its relevance for the study of craft creativity.

Using the subcam: Easter egg decoration as a creative craft

Illustrations of the SEBE methodology come from the specific craft of decorating Easter eggs in Romania. Easter egg decoration is not restricted to this country, or Christian Orthodox communities, and egg decoration more generally has deep historical roots in many cultures across the globe (see Gorovei, 2001; Marian, 1992; Newall, 1967, 1984). While traditionally dyed in red (reminiscent of the sacrifice of Christ), decorated eggs in Romania often display a variety of geometric and figurative motifs and are nowadays at the centre of a vital and creative custom situated at the crossing between art, religion, folklore and a growing national and international market (see Glăveanu, 2010).

Decorated eggs (generally referred to as *ouă încondeiate*, where *condei* means also writing tool) are produced in Northern Romania by artisans (mostly women) throughout the year, and especially in the winter months preceding Easter. Different types of eggs are decorated, from chicken and duck to goose and even ostrich, and they are all prepared for

decoration by removing their content (which a syringe) and thoroughly cleaning them on the inside and outside. Traditional decoration involves the use of natural wax, warmed up until it becomes liquid and applied on the egg with the help of a special instrument known as *chişită* or *condei* (a wooden stick with a metal pin at one end; see Figure 1). There are at present different styles of decoration but the oldest one involves repeated stages of working with wax and immersing the egg in colour (typically yellow, red and finally black). The traditional technique therefore requires a lot of thinking ahead on the part of the artisan since what is made on the egg in each phase is actually the 'negative image' of what will be the final outcome, after the wax is cleaned off. Finally, it is important to note that decoration colours and stages vary across different regions in Romania (even between villages) and folk artists have at their disposal an impressive number of motifs they combine and transform in producing each single egg (Gorovei, 2001; Zahacinschi and Zahacinschi, 1992).

Figure 1. Work tools: the tin can used to warm wax and the set of chişite

For this particular reason (endless combinatory of possibilities) the tradition of egg decoration has been chosen as a suitable example of craft creativity. As with any folk art, decoration has a *set of 'rules'* transmitted from generation to generation, that give it its

distinctiveness and often make it a powerful identity marker (at national and even local level). Rules are at the same time a cultural repository of "what works well" capitalised through the work of many, a way to demonstrate one's own mastery in their application and therefore social legitimacy, and a powerful generator for creativity because they provide a stimulating framework for creation games. The famous Oulipo literary movement, which made formal constraints the framework for their creativity, is a paramount example. One of the most celebrated productions of this prolific group is George Perec's (1996) "La Disparition", a 300 pages book written without using a single time the letter 'e', which is the most frequent letter in French. In the case of egg decoration, within the 'rules' of the craft artisans have an *impressive degree of creative freedom* in choosing how and what to represent on each egg, often innovating both in terms of work technique and content and personalising their work (Irimie, 1969). The question remains of how exactly this creativity is manifested in the micro-moments of its production.

Method

The subcam was employed for the study of creativity in Easter egg decoration in the context of a larger research project conducted by the first author in Romania. For the purpose of this article, the research will be referred to here as an *illustration* of how the subjective camera can be used in fieldwork and its potential results in terms of capturing and understanding creative work.

Participants

The investigation has been conducted in the village of Ciocanești (Suceva district), historical region of Bucovina. This location was selected for being the home of a large and vibrant community of decorators, hosting a National Museum of Decorated Eggs and annual Easter Festivals to celebrate the craft. The seven decorators whose work has been recorded were all participants at a five days summer school for egg decoration organised at the

Museum and opened to both novice and expert decorators. They were all women, with ages ranging from 8 to 41. For two of the participants decoration was a main type of activity while the other participants were decorating on occasions and especially before the Easter period. The relatively small sample size is compensated, as will be shown next, by the richness of the data collected for each individual case.

Apparatus and Materials

The study made use of the subjective camera (subcam) and the final dataset comprised about six hours and a half of film. Preparation of the material aspect of the research included therefore pre-testing the camera to see if it properly records activities performed on an object as small as an egg and held relatively close to the eyes. It was noticed that the usual procedure of applying the camera to the side of a pair of glasses didn't capture the decoration process well so the researcher resorted to placing it below a sun visor, in a position close to the space between the eyes (see Figure 2). Two subjective cameras were used for the fieldwork thus allowing more people to wear them simultaneously in each daily meeting at the Museum.

Figure 2. Researcher wearing the subcam and microphone under a sun visor

All material resources (eggs, chişite, wax, colour) were provided by the Museum and also by some of the participants who occasionally brought their own work instruments. The researcher used his personal laptop to show the participants the resulting films and confrontation interviews were also recorded with the help of a subcam and an audio recorder. Pre-training in using the camera and conducting confrontation interview in ways that reduce experimental bias was made available beforehand from more experienced researchers.

Procedure

The study followed all the classical steps of a Subjective Evidence-Based Ethnography also discussed above. SEBE is based on the combination of three techniques:

1. first person audio-visual recording with a miniature video-camera worn at eye-level, the subcam (Lahlou, 1999, 2006); this provides what the creator saw, heard and did.
2. confronting respondents with their first person recordings to collect personal experience through evidence-based, controlled, analytic reconstruction; this enables the participants to explain what they thought at the moment of action.
3. formulating the findings and discussing the final interpretation with the respondents; this makes sure the researcher understands correctly what happened.

In preparation for fieldwork all participants were notified about the use of camera during the summer school and *fully informed* about the methodology and the aims of the study. This ensured that the respondents understood the purpose of research and provided maximum help; considering the actor as a partner in research is a key aspect of SEBE. Their consent has been recorded and, in the case of young children, parents have given their approval. All participants wanted to be identified by name in the research. The decorators found it easy to wear the camera and commented in the interviews on the fact that having the sun visor did not disturb their work and seeing their resulting videos was a fascinating experience. The camera was not forgotten (as it happens in other contexts; Heath, Hindmarsh,

& Luff, 2010) since participants insisted on holding the recorder on the table so they could look at it from time to time and avoid situations in which their work would be 'off' camera.

Illustration of results

- Filming the craftwork

What needs to be emphasised from the start is that, in most of the cases, extremely clear footage of the decoration process resulted from artisans using the subcam. There were only rare situations in which, for a short period of time, the egg was not visible on film or was held too close to the camera resulting in poorer image quality. Exemplifying the video material, Figure 3 depicts the process of making a particular spiral-motif known as 'the lost way'. This motif involves drawing first three sets of parallel interrupted lines (that must necessarily include an even number of segments), and then reuniting them, initially first to second and second to third, and then back second to first and third to second. In this way a structure of braided shapes is generated, enclosed on both sides by double lines (the motif continues with making semi-circles on the side of each external line).

First interrupted line 02'55''

Second interrupted line 04'23''

Third interrupted line 05'13''

Checks the number of segments 05'57''

Unites first to second, second to third 07'41''

Unites second to first, third to second 09'45''

First continuous lines 13'23''

Second continuous line 14'55''

Figure 3. Making the 'lost way' spiral motif (Cristina Timu)

- Discussing the craftwork

However insightful the recording of first-hand creative activities might be, seen from the perspective of the actor, their (accurate) interpretation would be almost impossible

without input from the creator him- or herself. This is again clearly demonstrated by the subcam material generated by folk artists where filming the succession of their actions is incomplete in the absence of confrontation interview data. During these interviews decorators accessed the goals and personal experiences they had *while* working and revealed information that would not have been verbalised otherwise: procedural and tacit type of knowledge (Nonaka, 1994; Polanyi, 1967). For example one of the participants discussed, while watching the video, the way in which she covered the hole in the egg with wax and the reasons for it. This particular reference was not made in previous interviews about her work, as acknowledged by both researcher and the participant (she said it never crossed her mind to say these things because she just does them without paying attention anymore).

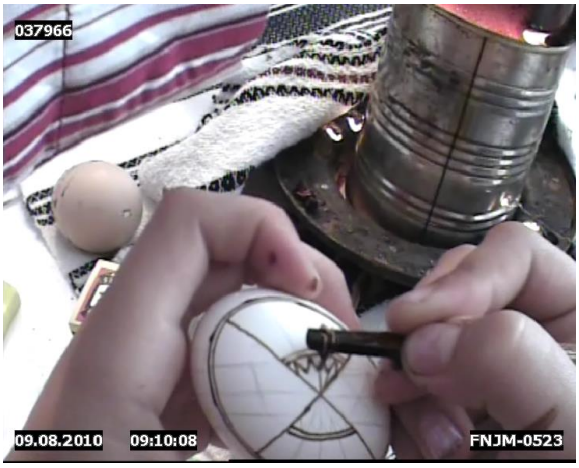
The necessity of the confrontation interview is perhaps best illustrated though by those segments of activity that cannot properly be understood by the researcher alone. A fist example of this is the process of *choosing work materials*, both egg and chişită. In the frequent cases in which participants didn't come with these from home, they had to start by obtaining them on the spot. Consequently, especially in the case of the chişită, there were plenty of moments recorded on camera when folk artists picked up several work instruments and seemed to look for new ones. The question is of course why. What made them change a chişită and, most importantly, to choose one? The interviews revealed a general sense that what was looked for is "a good chişită", and this was explained as a chişită one could work with continuously, without interruptions. But their needs were a bit more specific at different moments in time. For example Laura Niculiţă wanted at some point a chişită that was "warm" and therefore would apply wax better on the egg. In contrast, Niculina Nigă looked at the beginning for the chişită she "worked best with", a "thinner" one since completing the first stage requires thinner lines. This was also mentioned by Marilena Niculiţă who regularly "tested" each chişită on her fingernail before starting to 'write' with it. Another recurrent

practice for many decorators, in need of explanation, was what they were exactly looking for when *turning the egg around* (frequent especially after finishing a segment). While for an outside observer these gestures could be interpreted 'in general', it is again within specific situations that they acquire their true significance for the participants. For example the egg was turned to "check if anything is missed", at times to "see what needs to be done next", to "get a general impression" or simply to confirm if the decorator "likes" the outcome or not.

- Discovering instances of creativity in craftwork

The most important aspect to illustrate has certainly to do with how micro-level instances of creativity in craftwork can be documented through the use of the subcam technology. After conducting a SEBE the researcher is left, in principle, with considerable amount of recorded material. Therefore it is helpful, once becoming familiarised with the material, to *select fragments or episodes* for further analysis (Lahlou, 2006, 2011; also Heath, Hindmarsh, & Luff, 2010). In the Easter egg decoration study, due to the relatively short time interval in which decorators have worn the cameras (on average 45 minutes), it was possible to go through most of the recording with the participant, without the need to preselect episodes. This helped to postpone the analytical stage of isolating creativity instances and actually meant identifying these moments in collaboration with the folk artists themselves. In the context of this article, for illustration purposes, three different examples of 'creativity outbursts' will be discussed, reflecting three different domains in which creativity tends to manifest itself in craftwork: a) the technical or procedural aspect, b) the completion of work, and c) the content of decoration. Instances have been selected for each category considering a *basic definition of creativity* as "the production of something new" (Torrance, 1988, p. 43), a novel type of behaviour. In view of this working definition it becomes even clearer how identifying creativity depends also on the creator's input since behavioural novelty can be assessed by comparison with the existing set of data but this set will always be limited.

Starting with angles 25'10''

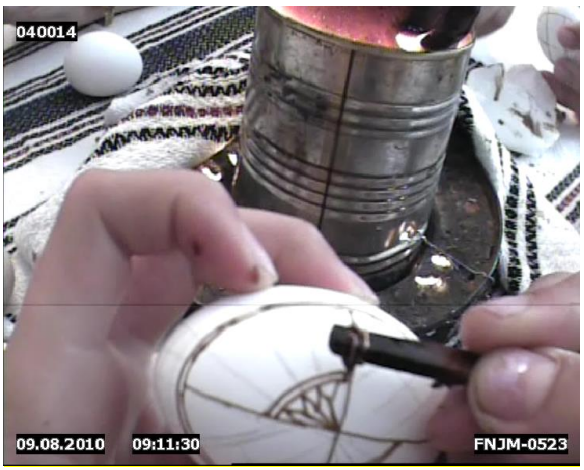


Continuing with lines 25'18''

Starting with angles 25'34''

But switching to make the lines first 25'47''

Continuing with lines first 26'26''



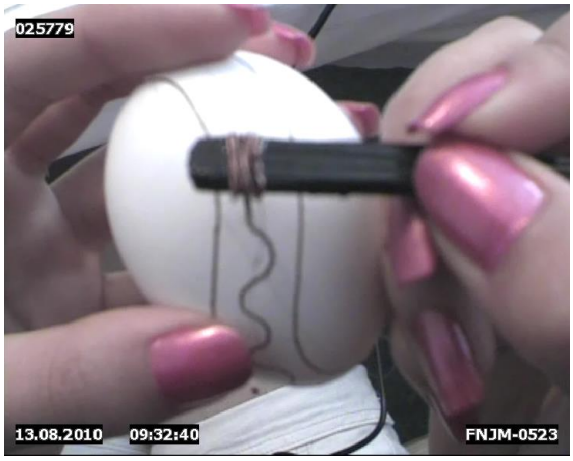
And finishing with angles 26'40''

Figure 4. Drawing the 'half star' motif – technical variations (Laura Niculiță)

Figure 4 above illustrates an instance of *technical creativity*, when Laura was drawing the 'half star' motif in the opposing quadrants of the two main sides of her egg. The video recording clearly shows how initially she started with making the angles and then continued

with drawing the lines. When passing to the second of the opposing quadrants (at 25'34'') she suddenly changed her technique and abandoned the small starting point of the angles to depict first the lines. Interestingly, after this episode, she continued on the other side of the egg to complete the 'half star' motif in the opposing quadrants by drawing first the lines and then the angles. As resulted from discussing this moment of the decoration process with Laura, she changed the depiction order because it was easier to start with the lines and you get a better chance at drawing the angles more precisely (lines offer "reference points" for the much shorter segments of the angles). This moment of spontaneous change did not modify the final outcome (the representation of the motif) but improved the general technique and, as such, it was a 'novelty' to be remembered and used from that point onwards. It is to be noted that these little 'discoveries' are specific for novices and more experienced decorators apply them almost automatically and pass them on to others as general rules of decoration (one of them being to always start with longer lines and finish with the details of the motif).

A similar example of learning in context how to realize a given task with less time or efforts is described at length for navigators fixing position in Hutchins (1995, pp. 287-351). This form of technical creativity can be called a *procedural shortcut* (which, exercised further, can turn into a work tactic). Once a procedural shortcut is evidenced, the technique presented here enables to document it in various ways. Systematic sampling of similar occurrences (in this case, all the 'half-star' motives in the videos) provides a "retrospective sample" (Lahlou et al., 2002) of type events as they take place in 'natural experiments' (Lazursky, 1911). The researcher can then compare variations statistically, and see for example if they are linked with particular socio-demographics, check with the participants who exhibit a specific 'creative' variation how they came to learn it, and so on. This analysis can be done collectively with a group of experts to compare their perspectives (Cordelois, 2010), leading to a more systematic analysis of craft creativity.



Drawing the girdle spiral 17'11''

Drawing two leaf shapes, one side 18'08''

Drawing three leaf shapes, one side 18'26''

Drawing two leaf shapes, other side 18'56''

Drawing three leaf shapes, other side 19'07''

Checks the result 19'48''

Figure 5. Making leaf motifs on a spiral girdle (Mihaela Timu)

One other general rule of decoration in the case of Easter eggs is the rule of symmetry. Usually motifs are represented in symmetrical ways on the egg and they

themselves often have internal symmetry. As it happens though, at times this regularity cannot be fully respected due to space constraints in how previous motifs have been made. Figure 5 depicts a situation in which Mihaela, a more experienced decorator, made leaf-like forms on a spiral girdle going around the egg. It can be easily noticed from here how sometimes she applied two and sometimes three such shapes, on each side of the girdle. In the dynamic of her work there was therefore an 'irregularity' generated mostly by the fact that the spiral previously made had slightly unequal curves. What the interview added is an understanding of how irregularities in this case (and others) for Mihaela were not to be avoided but cultivated (reminding of the notion of 'preference for complexity'; see Ziv & Keydar, 2009). She was conscious of not making the same number of leaves on each side and did not consider this to be a mistake since "there is no rule" saying exactly how many shapes should be made. This is therefore an excellent example of the *situated nature* of creative work in craft, transcending and adapting broad 'norms' to the circumstances of the here and now. The segments already made are not just completed pieces of the puzzle but active contributors to how decoration work is to be done in subsequent phases. As such, decoration is characterised by adaptability and flexibility as much as it is by routine.

These minute variations in "classic" motifs are based on a personal appreciation of "what is good" for a specific artist, and therefore are a manifestation of *personal style*. Through a systematic study of these variations, e.g. measurement on the craft, and comparison with what the artist says about it in the interview, the researcher is able to assess what are the relevant traits that the author considers in creation. Such systematic analysis has been developed for technical design based on verbal protocols and is known as "perceived quality" analysis (Nosulenko & Samoylenko, 1997, 2001, 2009; Parizet & Nosulenko, 1999). Transfer of these techniques would be an interesting avenue for creativity studies. In consequence, minute study enabled by SEBE could clarify the nature of 'style', as a personal

way to pay attention to, and execute, specific characteristics of a classic feature, and 'taste', determining what aspects are perceived as important for the final outcome.

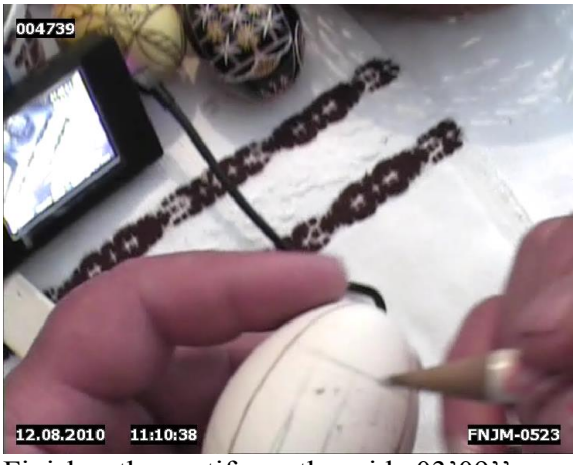
Starts pencil drawing after model 01'39''

Checks what she made on one side 02'07''

Positions the model better 02'12''

Finishes the motif on one side 02'58''

Erases what she did on other side 03'00''



Finishes the motif on other side 03'09''

Figure 6. Trying to copy a motif, drawing in pencil (Niculina Nigă)

Finally, the last example reflects creativity in the *content* of decoration. One of the common 'accusations' when it comes to folk art is that, in contrast to fine art, it "shows a high occurrence of borrowing, repetition, use of conventional themes, plagiarism, and disregard for spontaneity and originality" (Cincura, 1970, p. 170). This supports a vision of folk art motifs as static and depicted through meticulous processes of exact replication. Nothing could be further from the truth, as subjective camera recordings demonstrate. To argue this point one has only to look at the moment in Niculina's work when she deliberately attempted to 'copy' a motif (see Figure 6). The model egg was positioned in front of her and she used a pencil to make its main lines on her egg. As discussed in the interview, Niculina liked very much the motifs of this particular egg (two 'shepherd's hooks' on one side and a grid with stars on the other) and has never seen them before. Common in such circumstances, folk artists are very eager to "steal" the new models they encounter since others don't often "give" or "share" their motifs willingly. The six screenshots reflect the intrinsic difficulties of translating patterns from one surface to another, and it can be seen how the rubber was often used in the process.

What is most interesting here from the perspective of creativity is the intention Niculina had when working that particular segment: not to make the whole motif but to capture "the main idea", to *schematise* it because she will be able to change or add to it later ("from a single [model] I make several"). Furthermore, even outside of this goal, it would have been impossible to perfectly copy the motif anyway (as she commented when she made it for one of the other participants) since no two eggs are absolutely the same: the one she worked on was smaller and thus the model needed to be "crowded" on it. Russian activity theory, with its focus on the operator's goals (conscious representation of the desired state), uncovers how a specific artist will create a path from the current state to the goal. This is why the researcher should constantly ask the participants for their goals and sub-goals during the

confrontation interview. This enables to know what exactly the artist tries to produce–in this case, it becomes obvious that it is not the precise reproduction, but a more general effect, in opposition to commonly held beliefs (see Cincura, 1970). A fundamental manifestation of content creativity in craftwork relates therefore to all the 'minor' changes constantly made to rather established, old models, and helps to define the real nature of a 'motif'.

Discussion: Insights afforded by the subcam

The illustrations of creativity in folk art included in the previous section are meant to highlight the utility of using the subjective camera, in the context of a Subjective Evidence-Based Ethnography, for the study of microgenetic creative processes. From the few examples above one can already see the remarkable potential this methodology has for allowing to pinpoint moments of creative production and to gain a better understanding of how creativity is intertwined with tradition in the craft of Easter egg making. The research uncovered signs of creativity in three particular domains: that of technical procedures (*how* things are done), the completion of work (*why* things are done as they are), and its content (*what* things are done). In applying this methodology what is also gained is a more systematic and consistent grasp of complex phenomena such as style, taste, and motif. This procedure can shed light on the very process by which these phenomena occur in real situation, and enable connecting them to the representations and evaluations held by the creator him- or herself.

The analysis of the current video dataset makes it possible to obtain many more examples for each of these categories and to enrich the classification. Parallels with previous studies of traditional art such as Yokochi and Okada's (2005), using similar methodologies (videos, observation and interviews), can easily be drawn. To begin with, both ink painting and egg decoration require 'hands-on activities' and, as such, raise interesting questions about the relationship between creative cognition on the one hand and the movement of the body on the other. These investigations substantiate the conclusion that "artistic creation is a highly

embodied process" (p. 253) and there is a *dynamic cycle* between creative idea or representation of the work and its realisation in movement and action in the material world. The artisan's creativity unfolds as the work progresses and therefore does not reside either in the mind of the creator, nor in the materiality of the creation, but *between* the two.

The famous painter Jean Dubuffet, in his "L'homme du commun à l'ouvrage" (1973), describes how the artist builds on the surprises that the very execution provides, judging the effects as they emerge on the canvas. This supplies researchers with an insight of creation as a *path-dependant* process, rather than a linear sequence where the artist would reproduce on the medium a pre-existing, mental representation (links can be made with idea of nonmonotonic exploration, see Simonton, 2007; Weisberg & Hass, 2007). Similar conclusions have been reached by other authors as well, exploring creative action in different domains. Perez, Johnson and Emery (1995) for example discussed the design process as an iterative type of activity and not a linearly deterministic progression from idea to outcome. For science, Dunbar (1997) concluded that novel ideas emerge not through revolutionary changes but rather through a series of 'minor mutations' that accumulate and transform the content of our knowledge. Serendipity (taking advantage of accidental discoveries) also plays a key role. A quick look at how Easter egg motifs and work techniques evolved during recent decades in Romania would undoubtedly support this perspective of incremental evolution.

Naturally, as in the case of any methodology, the use of the subcam has its downsides and *limitations*. An obvious one has to do with the fact that the method cannot be successfully used at all times, with all people and in all circumstances, due to restrictions of access. Researchers don't have access to every creator and can't always be sure that they will record the most relevant segments of work. Taking an extreme example, the study of creators from centuries past and their work continues to be approached through historical and biographical research alone. Moreover, in setting up a subcam study some time is required to

build the necessary bonds of trust between researcher and participants. The absence of this stage poses not only ethical problems but can seriously affect the nature and quality of the data to be collected. Finally, as with any video recording, the material is never easy to analyse and "developing inclusive, reliable coding schemes and training coders is very challenging and time consuming" (Ruscio, Whitney & Amabile, 1998, p. 259). However, this apparent disadvantage can be turned into an opportunity: that of being able to analyse the same dataset from a multitude of angles and with a variety of research questions in mind. To give just one example for the Easter egg study shortly introduced here, the research could easily be expanded to explore differences between novices and experts in creative work or to build up activity charts of the decoration process.

In the end, there is a strong argument to be made for diversifying the application of the subcam to target *other creative domains* like art, science, design, and *other research problems* such as comparisons between beginners and experts, insight or the Aha! moment, stages of the creative process, and so on. Interest in some of these from a microgenetic perspective already exists (see Wallace, 1991). It is also important to keep in mind the research questions one is aiming to answer and not to transform any methodology into an end in itself. This is particularly tempting when faced with the accessibility of recording devices, something rightfully noted by Loizos (2000, p. 105): "It is easy to get carried away by the idea of 'making a video', and to end up letting the technology, or the excitement, dominate the research". An opposite 'danger' is, on the other hand, not to use subjective cameras or video recording technologies due to rigid theoretical commitments. In this regard, it could be expected that researchers preoccupied with great creations and creators alone or considering that creativity takes place only 'in the mind' will have little use for subcams. On the contrary, those who want to understand the moment-by-moment dynamic of creativity in the everyday

and the ways in which creativity presupposes a constant interaction between a creator and his or her world (material and social) will find this technique indispensible for their work.

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